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LEGRAMS: 1

ANDREW D. FARLAN, }  
ARCHD. PATON, } Auditors.

# *Greenock Philosophical Society.*

IM/AFW

(Instituted 1861)

IAN McCLURE,  
HONORARY SECRETARY.

MANSION HOUSE,  
1 ARDGOWAN SQUARE,

TELEPHONE NO. 121.  
TELEGRAMS: BUSINESS, GREENOCK.

*Greenock* 20th September 1938.

A.E. Townsend Esq.,  
Librarian,  
British Museum (Natural History),  
Cromwell Road,  
LONDON, S.W.7.

ack. 21/9/38

Dear Sir,

I was duly favoured with your letter of 12th instant requesting me to assist you in completing your set of our Annual Reports.

Many of these are out of print, but I have been able to secure the undernoted 51 Reports which I am dispatching to you by separate parcel. I very much regret that it is impossible to supply the remainder.

Please acknowledge receipt.

Yours faithfully,

*Ian McC. Clure*  
Honorary Secretary.

The undernoted 51 Annual Reports dispatched this date per separate parcel:-

Nos. 2 - 12  
15 - 19  
21 - 22  
26 - 30  
32 - 33  
36 - 39  
41  
44 - 49  
51 - 59  
61 - 66

Recd. 21/9/38

22 SEP 1938

## SECOND ANNUAL REPORT

OF THE

## GREENOCK PHILOSOPHICAL SOCIETY.

READ AT THE MEETING OF THE SOCIETY HELD IN THE WATT MONUMENT,  
ON 12TH MAY, 1863—ALEXANDER MACKENZIE, ESQ., VICE-PRESIDENT,  
IN THE CHAIR.

## I.—STATEMENT OF ACCOUNTS.

1862.		Dr.	
May.	Balance in hand received from former Treasurer,	£0	19 4
	Bank and Interest,	9	6 1
	Subscriptions from 115 Members at 7s 6d each,	43	2 6
	Sales of Tickets for Professor Rankine's Two Lectures,	4	15 6
	Conversazione	19	4 0
	Admissions to Hall during Week following do.,	6	6 6
	Subscription from 11 Members to defray extra cost of do.,	12	10 0
			<u>£96 3 11</u>
		Cr.	
	Cost of Lectures and Exhibitions during Session,	£11	17 9
	Conversazione, with all Charges apportioned,	44	19 11
	Blackboard and Stand and Reading Desk,	2	0 0
	Journals of Learned Societies for use of Members,	2	16 9
	Membership Tickets, Lithograph Design and Stone,	1	7 10
	Account Books, Paper Ruling and Binding,	0	7 6
	Stationery, Headed Paper, Envelopes, &c.,	0	13 8
	Printing and Addressing Circulars, Programmes, &c.,	8	14 0
	Rent of Hall and Gas during Session,	6	5 0
	Officer's Salary,	5	0 0
	Cleaning Hall (last Session, 1861-62),	0	7 6
	Balance at credit of Society with Provident Bank, of date per Pass Book,	11	14 0
			<u>£96 3 11</u>

Greenock, 12th May, 1863.

E. &amp; O. E.

(Signed)

C. D. LAMONT, Treasurer.

Greenock, 12th May, 1863.—Examined and found correct.

(Signed)

ANDREW M'FARLAN,  
ARCHD. PATON,

} Auditors.

## II.—STATEMENT OF PROCEEDINGS.

IN some material respects the Committee are in a position to state that the Society has made considerable progress during the past year. The number of Members enrolled for the previous session was 82; the number enrolled for the session now being closed has been 115. Of Papers read and Expositions delivered, there were 9 during the first period; there have been 20 during the second period.

Of the latter the programme has been as follows :—“On some of the recent Improvements on the Marine Engine,” by Mr Stewart Robertson; “On the Mouth and its Modifications in various classes of Animals,” by Mr W. Scott Aitken; “Outlines of the Ethnology of the West of Scotland,” by Mr C. D. Lamont; “On the Recent Progress and Present State of some departments of Engineering Science,” by Professor W. J. Macquorn Rankine, F.R.S., &c., (two lectures); “Notes on Art, with reference to the International Exhibition,” by Mr Thomas Mackinlay; “On the new metal Thallium, and recent Spectrum investigations,” by Mr David Hill; “*Résumé* of a recent paper, by Mr Geikie, F.G.S., ‘On the date of the last Elevation of Central Scotland,’” by Mr W. J. MacLoskey; “Recent Discussions on the Study of History,” by Mr Richard Chalmers; “On the Early English Drama,” by Mr Alex. Mackenzie, M.A.; “On Traces of the Old Glaciers of the Basin of the Clyde,” by Mr Archibald Geikie, F.G.S., &c.; “On Submarine Telegraphs,” by Mr John Thomson, C.E.; “On Memory,” by Dr Edward Pick; “Observations on the recent Progress of Glacier Discovery,” by the President; “A Gas and Air Fire Apparatus exhibited and explained,” by Rev. Archd. Wilson; Mr De La Rue’s series of 18-inch Photographs of the Moon, exhibited by the kind permission of the Artist; “On the Sculptured Stones and Christian Monuments of Scotland, with some Illustrations of the Monumental Brasses of England,” by Rev. J. F. S. Gordon, D.D.; “On the Tree Mosses of Scotland,” by Mr John Shaw; “On Ancient Greenock: its Quays, Slips, and Sea Marks,” by Mr Wm. Allison; “On Roman Coins,” by Mr Stephen Williamson; “On the Life of Shakspeare, with Readings from his works,” by Mr Allan Park Paton.

It is to the authors of these papers that the Society owes any advances it may have recently made in prosperity and usefulness; and looking to the cordial feeling with which, in every instance, those gentlemen have met their wishes, the Committee cannot but express their conviction, that, the available resources of the Society are much more than ample enough to carry it on

successfully for any length of time. The assistance of many of the ablest men in the West of Scotland has only to be courteously invited to be readily obtained.

An Association in connection with the Society for the practical study of Art has been recently formed under very favourable auspices.

One of the most interesting events of the Session has been the *Conversazione*, which was held on the Anniversary of Watt's Birth-day. It was happily due to the cordial co-operation of nearly every individual member that the Society was enabled, on that occasion, to present a new and most refined enjoyment to the community.

Arrangements have been completed for a Botanical Excursion to be made by the Society on an early day in June; and, by the friendly courtesy of the Glasgow Geological Society, the Summer Excursions of that body for the present season have been thrown open to our members.

The Committee attach some consequence to the Examination of the Natural History and Geology of the District to which the Society has resolved to address itself. It is an undertaking involving a good deal of labour, and perhaps a considerable length of time, but one full of interest, and sure to exercise, in many forms, an important influence on the future standing of the Society.

The Society is indebted to the kind favor of John Poynter, Esq., for the donation of a relic of Watt of great value, namely, a Balance which at one time belonged to the illustrious Engineer, and which served as a token of friendship to be presented by him to an acquaintance of kindred tastes. Grateful acknowledgments are also due to John Napier, Esq., for the gift of a very interesting Photograph of the Engine of the "Comet" steamer.

A portion of the funds has been applied during the past session in the purchase of the Journals of some of the Metropolitan Societies, with a view to their being made available in the preparation of occasional reports to the Society, and for the satisfaction of members interested in the progress of special great departments of knowledge.

Three Honorary Members have been elected by the Society during the Session, namely, Archibald Geikie, Esq., F.R.S.E., F.G.S., a distinguished *savant* to whom we all feel deeply indebted; John Shaw, Esq., an able young naturalist, who has made some valuable researches, more especially in Cryptogamic Botany; and Stephen Williamson, Esq., who was one of the earliest, and a very extensive, contributor to our *Conversazione*, and whose attainments in Numismatical learning we have lately had an opportunity of appreciating.

Various suggestions have been made to the Society and to the Committee, and have been partially discussed by them, during the Session, such as the propriety of establishing a general Museum, a Reading and Consulting Room, and a School of Science. But, while the Committee will endeavour to embrace every opportunity of extending the usefulness of the Society, they do not at present feel that they can do more than merely admit the importance of those objects, and of others to which allusion might easily be made. Perhaps, indeed, to facilitate the operations of this and other local societies, the people of Greenock may, some day, in a generous mood, put it within the power of the Trustees of this Building to complete what has long, by not a few, been regarded as its natural outline, and, by occupying with an appropriate hall the vacant space behind it, transform the present Institution into one which should be still more worthy of the memorial character it bears; do new service in many ways to the interests of Literature, Science, and Art; and afford to the community a place of polite assembly in every sense.

#### OFFICE-BEARERS FOR SESSION 1863-4.

*President*—Sheriff TENNENT.

*Vice-Presidents*—Messrs ALEX. MACKENZIE, ALLAN PARK PATON, and ROBT. BLAIR.

#### *Committee.*

Messrs JAMES CARMICHAEL.	Messrs JAMES DRUMMOND.
RICHARD CHALMERS.	Rev. ARCHD. WILSON.
JAMES GARDNER.	DAVID HILL.
W. J. MARSHALL, M.D.	ALEX. RODGER.
ALEX. MACKENZIE, M.A.	W. B. PAUL.
ARCHD. PATON.	GEORGE WILSON.
ANDW. M'FARLAN.	JOHN NEILL, Jun.
ROBT. FULLARTON.	

*Treasurer*—Mr C. D. LAMONT.

*Secretary*—Mr JOHN LOVE.

PRINTED

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# THIRD ANNUAL REPORT

## OF THE

# GREENOCK PHILOSOPHICAL SOCIETY.

READ AT THE MEETING OF THE SOCIETY HELD IN THE WATT MONUMENT,  
ON 10TH MAY, 1864—ALLAN PARK PATON, ESQ., VICE-PRESIDENT, IN  
THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

	DR.	
Balance from last year, with interest,	£12 4 3	
Subscriptions from 160 Members,	60 0 0	
	<u>£72 4 3</u>	
	CR.	
Rent,	£10 0 0	
Gas and Gas Fittings,	7 3 6	
Officer's Salary, Coals, Cleaning, &c.,	6 10 3	
Platform, and Sundry Furnishings,	5 3 11	
Postages and Stationery,	2 16 9	
Printing and Addressing Reports, Notices, &c.,	10 16 0	
Balance from Conversazione,	3 19 6	
Expenses for Lectures, Exhibitions, &c.,	6 19 5	
Botanical Prizes, Advertisements, Catalogue, &c.,	14 11 9	
Journals of Learned Societies,	3 19 0	
Balance in Treasurer's hands,	0 4 2	
	<u>£72 4 3</u>	

Greenock, 9th May, 1864.

E. & O. E.

(Signed)

C. D. LAMONT, *Treasurer.*

Greenock, 9th May, 1864.—Examined and found correct.

(Signed)

W. B. PAUL,  
A. MONTGOMERIE, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

THE past session of the Society has at least been, in many respects, a busy one ; and, it is a gratifying circumstance that the number of Members has considerably increased. In the first year, there were 82 Members ; in the second year, 115 ; and in the third, which is now closed, there have been 160.

The Committee may with some satisfaction recall the series of papers which were read during the past winter, as having been in the greatest degree honorable to the authors, and as having conferred not a little distinction on the meetings of the Society. The programme has been as follows :—“ On the Chemistry of the Colors from Coal Tar,” by Mr C. G. Williams, F.R.S. ; “ On the recent progress of Geographical Discovery,” by Mr Alex. Mackenzie, M.A. ; Exhibition of Microscopical Preparations of Antique Glass, &c., by Mr W. S. Aitken ; “ On Ozone,” by Mr David Hill ; “ On Greenwich Time, and the Methods of Transmitting it,” by Mr Frederick Ritchie, Edinburgh ; “ Notices of the Authors of ‘ There’s nae luck about the House,’ and ‘ The Cameronian’s Dream,’ ” by Mr Alexander Rodger ; “ On Civilisation,” by Mr James H. Stephens ; “ On Cyclones,” by Captain Robert Paton ; “ On the Epic Poetry of Scotland, with special reference to Blind Harry’s ‘ Wallace,’ ” by Mr W. S. Kemp ; “ On the Intercourse between the Kingdoms of Scotland and France,” by Dr W. J. MacLoskey ; “ On Early Celtic Art and Literature,” by the Rev. Alex. Macbride, Kamesburgh ; “ On the Life and Writings of Thomas Hood,” by Mr N. N. M’Lean, M.A. ; “ On the Geology of the Central District of Scotland,” by Mr Thomas Struthers, Glasgow ; “ On the Correlation of the Physical Forces,” by Dr Wm. Wallace, F.R.S.E., Glasgow ; “ On Decimal Arithmetic, and its application to Money, Weights, and Measures,” by Mr Archibald Montgomerie ; “ Historical Sketch of Decorative Art,” by Mr David Murray ; “ Socrates : his Life and Doctrine,” by W. J. Marshall, M.D. ; “ Notes on some of the Peculiarities and Uses of various Plants and Trees,” by Mr James Miller, jun. ; “ On the System of Co-operation,” by Mr Robert Blair ; and “ Notes on the Social Condition of Greenock, with special reference to (1) the State of Education, (2) the Public Health, and (3) the Present Prosperity of the Working Classes,” by the Rev. John Nelson.

Our most cordial acknowledgments are due to Mr Williams, Mr Ritchie, Mr Macbride, Mr Struthers, and Dr Wallace for the friendly feeling shown by them in coming from a distance to illustrate subjects of so much importance. Among our own Members, also, it will not, we trust, be regarded as an invidious allusion if we make special mention of the body of Teachers, as having, in this and many other ways, with infinite credit to themselves, done valuable service to the Society.

The Art Association, which was set on foot last year by Mr T. R. Lamont, for the practical study of the Life Model, is in active operation, and has been much enjoyed by those who are members of it. For the last two months, it has been mainly conducted by Mr John Stewart.

The investigation of the Natural History of the District has made some progress since the last annual meeting. The Herbarium of the Society, composed of the prize collection of Mr Gregorson, with additions from that of Mr Thomson, contains 322 species of Indigenous Plants. The Catalogue of these, which has just been circulated among the members, is intended as a step towards the publication, at as early a date as possible, of a complete Flora of our own District. The Committee have further lately advertised two prizes for the best Collections of Indigenous Marine Alge.

Some important donations have been made to the proposed Museum of the Society, and claim our special thanks. The contributors have been the Gourock Ropework Co., Messrs John Poynter & Son, the Clyde Pottery Co., the Gourock Copper Mining Co., Messrs C. Macintosh & Co., Joseph Townsend, and John and James White, the Hurlet and Campsie Alum Co., Messrs Matthew Brown, Robert Mackenzie, John Kerr, Thomas M'Millan, and John Brymner. The Committee, at the same time, feel that an undertaking of this description will involve a greater expenditure of money than can be met from the ordinary funds of the Society. It is, however, no impracticable scheme which is implied in the fundamental idea of a Local Museum, but one which is likely to be attempted before long in every considerable place, namely, a Collection to illustrate the Industry, the Natural History, and the Antiquities of the town and its neighbourhood.

During the session two gentlemen have been elected as Honorary Members of the Society :—Charles Greville Williams, Esq., F.R.S., &c., who did us the favor to deliver the opening lecture, and whose researches on the products of the destructive distillation of Coal have long gained for him a position among the greatest Chemists of the day ; and Richard Chalmers, Esq., now of Glasgow, whose exertions on behalf of the Society throughout the first and second sessions, and the leading part which he took in all its proceedings, whether of a public or private character, will always deserve our respectful remembrance.

The second *Conversazione* of the Society, which was held on the anniversary of James Watt's birth, was attended with even a greater degree of interest and success than the previous one ; and it will not be denied that the tendency of such assemblies is to give a strong impulse to Knowledge and Taste in the community. Nothing could exceed the courtesy and liberality with which the applications made by the Committee for contributions and advice were met, in every instance, both at home and in Glasgow and other towns.

The Committee had the honor to make the arrangements for holding a public meeting, which took place in the Town Hall on the evening of the 22d April, in celebration of the Shakspeare Tercentenary. Out of the surplus proceeds of that meeting, a Cast of the original Bust of the Poet at Stratford-upon-Avon, with a suitable pedestal, has been purchased, and presented to the Greenock Library, to be preserved in memory of the very interesting event.

In thus paying respect to the birth-days of Shakspeare and Watt, the Committee are conscious of having given the fittest pledge they could offer for the continued exercise of their best offices in the cause of Literature and Science.

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#### OFFICE-BEARERS FOR SESSION 1864-5.

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*President*—SHERIFF TENNENT.

*Vice-Presidents*—MESSRS ALLAN P. PATON, ROBT. BLAIR, and C. D. LAMONT.

*Treasurer*—MR ARCHIBALD PATON.

*Secretary*—MR JOHN LOVE.

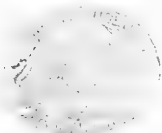
*Committee.*

MESSRS ANDW. M'FARLAN.  
ROBT. FULLARTON.  
DAVID HILL.  
ALEX. RODGER.  
W. B. PAUL.  
GEORGE WILSON.  
JOHN NEILL, JUN.  
ARCHD. MONTGOMERIE.

MESSRS JAMES H. STEPHENS.  
JOHN G. KINCAID.  
JAMES MILLER, JUN.  
W. J. MACLOSKEY.  
W. S. KEMP.  
R. H. HOUSTON.  
JAMES STEELE.

PRESENTED

22. 1865





# FOURTH ANNUAL REPORT

## OF THE

# GREENOCK PHILOSOPHICAL SOCIETY.

READ AT THE MEETING OF THE SOCIETY HELD IN THE WATT MONUMENT, ON 1st  
MAY, 1865—SHERIFF TENNENT, PRESIDENT, IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

Dr.				
Balance from last year,	-	-	-	£0 4 2
Subscriptions of 141 Members, at 7s 6d,	-	-	-	52 17 6
Interest from Bank,	-	-	-	1 11 1
				£54 12 9
Cr.				
Rent and Gas,	-	-	-	£12 10 0
Officer's Salary, Coals, and Cleaning,	-	-	-	6 0 0
Fees and Expenses of Lectures, &c.—Less Sums re-				
ceived for Tickets,	-	-	-	19 15 5
Printing Report, Circulars, &c., Advertisements, and				
Stationery,	-	-	-	9 15 0
Tradesmen's Accounts,	-	-	-	4 2 8
Postages and Incidents,	-	-	-	2 4 6
Balance in Provident Bank,	-	-	-	0 5 2
				£54 12 9

Greenock, 1st May, 1865.

E.E.

(Signed)

ARCHD. PATON, *Treasurer.*

Greenock, 1st May, 1865.—Examined and found correct.

(Signed)

A. MONTGOMERIE, } *Auditors.*  
W. B. PAUL,

## II.—STATEMENT OF PROCEEDINGS.

The number of Members composing the Society in its Fourth Session, which has now been completed, has been 141; and the List of Papers and Lectures which have been delivered is as follows:—

IN LITERATURE:—"On Shakspeare as the Poet of Nature," by Mr Richard Chalmers; "On Shakspeare as the Poet of Imagination," by Mr James B. Stephens; "The Women of Shakspeare," by the Rev. R. Herbert Story; "The Moral Meanings of Dramatic Poetry," by Mr Edward Caird, B.A., Oxon; "Readings from the Works of Dickens," by Mr George W. Baynam.

IN SCIENCE:—"On Combustion," by Dr Wm. Wallace; "On the Physical Geography of the Ocean," by Professor Henry D. Rogers: "On the Gyroscope," by the Rev. Alexander Bryson, Paisley, (the experimental illustrations by Mr Dundas Porteous); "On the Geological History of the Highland and Lowland Scenery of Scotland," by Mr Archibald Geikie, F.R.S., F.G.S.; "On Some Facts in the Science of Heat developed since the Time of Watt," by Dr James P. Joule, F.R.S.; "On the Elements of Geology," a Course of Six Lectures, by Mr Thomas Struthers.

IN ART:—"On Churches and Churchyards," by the Rev. Charles F. Reid; "Remarks on Landscape Art, with special reference to the Painting of Vegetation," by Mr John Stewart.

It is the agreeable duty of the Committee to refer more especially, with cordial thanks, to those gentlemen, not members of the Society, who have obligingly contributed papers during the past session.

Our honorary member, Mr Geikie, a few months ago, presented to the Society a copy of the Geological Map of the British Isles, (1864), of which he is the author.

Since the last Report three names have been added to the list of our Honorary Members. In a paper on "Dramatic Poetry," read in December last, by Mr Edward Caird—one of the number—the Society had an opportunity of appreciating those exquisite powers of analysis and of refined feeling which have already made our accomplished fellow-townsmen a scholar of distinction. The other two gentlemen are Mr James B. Stephens and Mr David Hill, each of whom, as a member of the Society, rendered unusual service in carrying on the work of several sessions. Few provincial associations have had to acknowledge a series of literary papers of greater power and beauty than those contributed to this Society by Mr Stephens, whose generous and important assistance, never withheld when asked, must always command our gratitude. And there is no one who has been at any time connected with the Society, to whose energy and practical knowledge, constantly made available, the members are more indebted than they are to Mr Hill. Besides being for two years one of the most active members of Committee, he was the author of two able Chemical papers, both of them very elaborately illustrated.

By the death of Dr. W. J. MacLoskey, which creates a vacancy in the Committee, we have been deprived of one of the most zealous and obliging members of the Society; and we are impressively reminded by this allusion, that, of the five local medical gentlemen whose untimely fate will long overshadow the memory of the past winter, no fewer than four, namely, Dr. MacLoskey, Dr. Paton, Dr. Conway, and Dr. Lochhead, had been joined with us in the good work of aiding the progress of this Association.

A prominent feature in the proceedings of last session has been the attempt made by the Committee, on several occasions, to convey instruction in a more systematic form than heretofore. Taking advantage of the universal interest lately excited in the words of Shakspeare, a series of three papers was arranged so as to exhibit some of the leading traits of our great author's genius. And the originality and exhaustive care with which these papers were prepared by Mr Chalmers, Mr Stephens, and Mr Story, deserve our very highest commendation. On the same principle, an engagement was entered into with Mr Struthers, of Glasgow, to deliver a course of popular lectures on Geology at the close of the session. These have been received with general and sustained gratification, and are acknowledged to have done much good. And, in the third instance, the *printing* of Dr Joule's lecture (kindly permitted by the author) will preserve the recollection of a discourse which, long hence, will be turned to with respectful interest.

Through the friendly offices of Professor William Thomson, of Glasgow, the Society was favored in January last—on the anniversary of Watt's birth—with a visit from Dr Joule, of Manchester, who then delivered the lecture on the science of Heat to which allusion has just been made. A more distinguished mark of honor could not have been paid to the memory of the great engineer. In a note addressed to the Committee, Professor Thomson remarks, with reference to Joule's investigations :—" I cannot conceive of any series of researches in science, to know which would have given Watt greater pleasure, had he lived to see them."

The meetings of the Art Association have been regularly carried on during the winter. The object of the members of this little association is to cultivate their own improvement in the drawing of the figure, and they have made gratifying progress within the last session.

A Cabinet has lately been purchased to contain the Society's Herbarium; and a considerable number of native genera and species have since been added to the collection.

An attractive supplement to Mr Struthers's geological lectures is the series of visits to interesting localities, which have already been commenced. The Committee may be permitted to suggest, that, with a little organisation, in such a neighbourhood as ours, it would be easy to maintain a system of Excursions, to be annually enjoyed by the members. He who would acquire even a general idea of the infinite fulness and variety of nature can hope to realise it only in the field.

The members have been made aware of certain changes, which, after very careful consideration, are now proposed for the permanent advantage of the Society; and the Committee cherish the hope that, in future sessions, with an increased revenue, and with the cordial co-operation of the members, the Society may be efficiently maintained as a centre of knowledge and taste in the town of Greenock.

## OFFICE-BEARERS FOR SESSION 1865-66.

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*President*—JAMES TENNANT CAIRD, Esq.

*Vice-Presidents*—MESSRS ROBERT BLAIR, C. D. LAMONT, and ARCHD. MONTGOMERIE.

*Treasurer*—MR ARCHIBALD PATON.

*Secretary*—MR JOHN LOVE.

*Committee.*

MESSRS ALEX. RODGER.  
W. B. PAUL.  
GEORGE WILSON.  
JOHN NEILL, jr.  
JOHN G. KINCAID.  
JAMES MILLER, jr.  
W. S. KEMP.  
R. H. HOUSTON.

MESSRS JAMES STEELE.  
ALEXANDER SWAN.  
JOHN JAMIESON.  
JOHN JACK.  
WILLIAM HASTIE.  
STEWART ROBERTSON.  
H. L. TENNENT.

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*N O T E.*

At the Annual Meeting of the Society, *inter alia*, Resolutions were adopted to the following effect:—

- I. To limit the period for which the President shall, in future, be elected to Two years.
- II. To raise the Annual Subscription for Members to Ten Shillings and Sixpence.
- III. To authorise the issue of Seasonal Tickets of Admission to Lectures, &c., at Two Shillings and Sixpence each, for Ladies and Youths—certain evenings during each Session being reserved for Members only.

1936







## FIFTH ANNUAL REPORT

OF THE

## GREENOCK PHILOSOPHICAL SOCIETY.

READ AT THE MEETING OF THE SOCIETY HELD IN THE WATT MONUMENT, ON 17TH  
MAY, 1866—THE REV. JOHN NELSON, IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### DR.

Balance from last year, - - - - -	£0 5 2
Subscriptions of 176 Members at 10s 6d, - - - - -	92 8 0
126 Tickets for Ladies and Youths, - - - - -	15 15 0
Interest on Bank Account, - - - - -	1 2 5
	<hr/>
	£109 10 7

#### CR.

Rent and Gas, - - - - -	£12 10 0
Officer's Salary, Coals, and Cleaning, - - - - -	7 13 0
Fees and Expenses of Lectures, &c., including Printing of Professor Innes's Lecture, - - - - -	58 13 3
Vote to Chemistry Class, - - - - -	7 0 0
Printing and Addressing Annual Report, Circulars, Tickets, &c., - - - - -	7 13 6
Advertisements, - - - - -	4 16 6
Tradesmen's Accounts, including new Platform and Gas arrangement, - - - - -	4 13 2
Stationery, Postages, and Sundries, - - - - -	3 17 3
Balance in Bank, - : - - - - -	2 13 11
	<hr/>
	£109 10 7

Greenock, 16th May, 1866.

E. E.

(Signed) ARCHD. PATON, *Treasurer*.

Greenock, 17th May, 1866.—Examined and found correct.

(Signed) C. D. LAMONT, }  
R. H. HOUSTON, } *Auditors*.

## II.—STATEMENT OF PROCEEDINGS.

According to the statement of the Treasurer of the Society, the list of Members for the past Session has been considerably larger than in any previous year, the number enrolled having been 176. The number of tickets of admission disposed of to Ladies and young persons has been 126.

The programme of Lectures, Papers, and Readings delivered during the session has been as follows :—

LECTURES IN SERIES :—Two by Professor Cosmo Innes of Edinburgh, on “The Origin of the Upper Classes of Lowland Scotland,” and on “Bruce and Royal Life in his Period,”—the latter, by the kind permission of the author, having been afterwards printed for the use of the Members; Four by Dr A. T. Machattie, of Glasgow, on “Gunpowder, Gun Cotton, and other Explosives used in War,” on “The Death and Decay of Plants and Animals,” and, in two parts, on “The Chemistry of Food;” Three by Professor Robert Grant, of Glasgow, on “The Astronomy of the Fixed Stars;” and Four by Mr David Gregorson, “Introductory to the Study of Botany.”

SINGLE LECTURES AND PAPERS :—On “Glass Painting,” by Mr C. Heath Wilson; on “The Faroe Islands,” by Mr H. L. Tennent; on “The Genius and Poetry of Robert Browning,” by Mr Quintin Bone; on “The Waterworks of Ancient and Modern Times,” by Mr W. Robertson Copland, C.E., Paisley; on “Aspects of Nature and Society in Norway,” by Rev. John Nelson; on “Sir Isaac Newton,” by Rev. Dr J. M. M'Culloch; on “Plato and his Writings,” by Dr W. J. Marshall; “A Brief Notice of the Life and Works of John Galt, with Readings, from *Sir Andrew Wyllie*,” by Mr Allan Park Paton.

DRAMATIC READINGS :—Three from the Works of Dickens, by Mr G. W. Baynham; and one from the Poets, Humorists, and Dramatists, by Mr H. Beatty (Bland).

Professor Grant will do us the favor, on an early evening, to allow Members to pay a visit to the Observatory of which he is the Director; Mr Heath Wilson has kindly agreed, on a day to be afterwards fixed, to accompany a party of ladies and gentlemen to examine the windows of Glasgow Cathedral. Mr Gregorson is prepared shortly to conduct a few Botanical excursions in our own neighbourhood; and an arrangement has been made with Mr Struthers to take charge of four Geological excursions.

A special acknowledgment is due to the Rev. Dr M'Culloch for the extreme friendliness with which, at the invitation of the Committee, he undertook to deliver a lecture, appropriate to the occasion, at the last anniversary of Watt's birth.

Every one will gladly join in the expression of cordial thanks to those members of the Society who have voluntarily brought forward so many interesting papers during the past session. Under the system,

which has for some time been adopted, of arranging the principal part of the programme in courses of lectures by professional men upon special subjects, we must now rely, for the element of variety, more than formerly upon the contributions thus obligingly offered by gentlemen of our own number.

In the course of the winter the Honorary Membership of the Society has been accepted by Professor Cosmo Iones, of Edinburgh, one of the most distinguished charter-scholars in Scotland, to whom we were at the opening of the session laid under peculiar obligations; and by our fellow-townsmen, Mr Robert Morton, of St. Peter's College, Cambridge, who lately gained the eminent honor of being declared Senior Wrangler of the year in that university.

One of the most interesting events in the history of the Society has been the successful formation during the past session of a large class for the practical study of Chemistry. It was opened on the 9th December, and closed on the 28th ultimo, and was conducted by Dr Machattie, of Glasgow—the course of instruction embracing twenty lectures on Elementary Chemistry, and an equal number of practical lessons in Qualitative Analysis. The number of students was 54, the total outlay about £100, and the cost to the individual student £1 15s. The arrangements were superintended by a committee of twelve, of whom eight were elected by the students; and, at the close, the thanks of the class were conveyed to Dr Machattie, the accomplished and popular teacher, in befittingly complimentary and respectful terms, by Dr Archibald Montgomerie, the Chairman of the Managing Committee. In all the business of the laboratory, Mr T. L. Patterson, from the outset, kindly lent the most valuable aid.

Any attempt to maintain in Greenock a course of scientific teaching from year to year, or even in occasional years, must require accessible apartments adapted for the purpose, and a good stock of at least certain kinds of apparatus. On the present occasion, by the favor of the Directors of the Academy, the Chemistry Class was admirably accommodated with rooms; and a considerable quantity of articles suitable for a class of the same description has been left in the hands of the Committee, of which some similar use may hereafter again be made. But to follow up, for example, the recent study of Qualitative, by a course of instruction in Quantitative analysis would involve an amount of outlay which could not be met by the fees to be derived from any single class. And yet, it would be of essential advantage to the town if a society like ours were furnished with the necessary means to undertake such a service.

Several meetings of the Members have been held during the session for the discussion of the business of the society, and have been fruitful of benefit in various ways. They have afforded to Members opportunities of making suggestions relating to the proceedings, which in every instance have been carefully considered and as far as possible acted upon by the Committee.

It will happen in years to come that one session will differ characteristically from another. Literature will predominate in one winter, Science in another, Art in another. But it will be always the aim and desire of the Committee, as far as the means afforded them will permit, to meet the general wishes of the Society, and, in every department, to acknowledge the cultivated spirit of the age.

#### OFFICE-BEARERS FOR SESSION 1866-67.

*President*—JAMES TENNANT CAIRD, Esq.

*Vice-Presidents*—Messrs C. D. LAMONT, ARCHIBALD MONTGOMERIE, LL.D., and W. B. PAUL.

*Treasurer*—Mr ROBERT H. HOUSTON.

*Secretary*—Mr JOHN LOVE.

#### *Committee.*

Messrs JAMES MILLER, jun.

W. S. KEMP.

JAMES STEELE.

ALEXANDER SWAN.

JOHN JAMIESON.

JOHN JACK.

WILLIAM HASTIE.

STEWART ROBERTSON.

Messrs H. L. TENNENT.

T. P. MACCALLUM.

DAVID GREGORSON.

JOHN C. HUNTER.

DUNCAN SHAW.

T. L. PATTERSON.

G. R. M'DOUGALL.



# SIXTH ANNUAL REPORT

## OF THE

# GREENOCK PHILOSOPHICAL SOCIETY.

READ AND APPROVED AT THE MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT, ON 8TH MARCH, 1867—JAMES T. CAIRD, ESQ., IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### Dr.

Balance from last year,	-	-	-	£2 13 11
Subscriptions of 163 Members at 10s 6d,	-	-	-	85 11 6
109 Tickets for Ladies and Youths,	-	-	-	13 12 6
Surplus from Watt Anniversary Meeting,	-	-	-	1 0 1
Interest on Bank Account,	-	-	-	0 16 0
				£103 14 0

#### Cr.

Rent and Gas,	-	-	-	-	£12 0 0
Officer's Salary, Coals, and Cleaning,	-	-	-	-	6 12 6
Fees and Expenses for Lectures, &c., including Print- ing of Mr Scott Russell's Lecture,	-	-	-	-	64 19 3
Balance of Chemistry Class Accounts,	-	-	-	-	2 17 1
Outlay for Herbarium since 1864,	-	-	-	-	1 0 0
Printing and Addressing Annual Report, Circulars, Tickets, &c.,	-	-	-	-	5 4 9
Advertisements,	-	-	-	-	3 12 0
Tradesmen's Accounts,	-	-	-	-	1 5 11
Stationery, Postages, and Sundries,	-	-	-	-	3 7 4
Balance in Bank,	-	-	-	-	2 15 2
					£103 14 0

Greenock, 8th March, 1867.

E.E.

(Signed) ROBT. H. HOUSTON, *Treasurer.*

Greenock, 8th March, 1867.—Examined and found correct.

(Signed), DUNCAN SHAW, }  
GEO. R. M'DOUGALL, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

As reported in the Treasurer's Statement, the number of Members for the past Session has been 163; and the number of Tickets issued for the admission of Ladies and Young Persons to the Lectures has been 109—these tickets, with a few exceptions, having been purchased by Members for the use of their families.

The ordinary working of the Society seems to involve an outlay of about £100 a-year; although, no doubt, a larger sum, if it were available, might be laid out to good purpose.

The Lecture Programme for the Session has been as follows:—

LECTURES IN SERIES:—Four on "The History of Scotland during the Eighteenth Century," by the Rev. Walter C. Smith, M.A.; Three on "The Manuscript Period of English Literature," by Professor John Nichol, B.A., Oxon.; and Two in Natural History, with Illustrations, by William Keddle, Esq., viz.—on "The Seaweeds of the Estuary of the Clyde," and on "Echinodermata, Fossil and Recent: Stone Lilies, Starfishes, and Sea Urchins."

SINGLE LECTURES AND PAPERS:—On "The Sanitary Regulation of Large Communities," by Professor W. T. Gairdner, M.D., Illustrated; on "Polychromatic Architecture and Sculpture," by Charles Heath Wilson, Esq., Illustrated; on "The Progress of Discovery in Astronomy," by Dr Archibald Montgomerie, Illustrated; and on "The Scotch in Europe," by the Rev. Charles F. Reid.

DRAMATIC READINGS:—One from "Dombey and Son," by G. W. Baynham, Esq.

The lecture by Professor Gairdner "On the Sanitary Regulation of Large Communities" was reported at considerable length by some of the chief newspapers. It attracted at the time the respectful notice of leading men in Edinburgh, Glasgow, and elsewhere, as a valuable contribution to the science of Public Health.

At the special meeting of the Members and their friends, held as usual in January, in celebration of Watt's birth-day, a lecture was delivered by John Scott Russell, Esq., F.R.S., London, "On the Application of the Inventions of Watt to Modern Steam Navigation." It was an admirably clear estimation of the characteristic merit of Watt in relation to steam and the steam engine; and, with the author's kind permission, it has been printed for the advantage of the Members of the Society.

The cordial thanks of us all are due to our friends, Dr Montgomerie and Mr Reid, for the excellent papers contributed by them during the winter. The subjects respectively selected by those gentlemen illustrate very well the varied character of the studies which attract individual Members among us—our appreciation of such variety being indeed the best augury for our endurance as a Society.

It was the desire and intention of the Committee to have followed up the course of instruction in Qualitative Analysis given last session by a

course of Quantitative Analysis this session, but, as the Members were sometime ago made aware, the rooms which, by the kindness of the Directors of the Academy, were occupied by the Chemistry Class last winter, have since been required for other purposes.

During the session the Committee took some pains to form a class for the practical study of the use of the Microscope, and a small party having been made up, Dr William Scott Aitken, whose services rendered to the Society in its first session will be in the recollection of many of the Members, was invited to undertake the conducting of it. The course of study extended to six lessons and was quite successful, the class-book used being Dr Carpenter's work on "The Microscope and its Revelations." It has been resolved by those concerned to maintain this interesting study as a permanent department of the Society's operations.

The Herbarium of the Society now contains 450 species of plants indigenous to our immediate district, being an addition of 130 species to the collection since the publication of the catalogue in May, 1864. The Members are deeply indebted in this whole matter to Mr Gregorson for his long-continued and disinterested exertions on behalf of the Society.

On the subject of Excursions, the Committee have only to state that those announced in last year's Report were all carried through, and that steps are being now taken to organise others of like interest.

To the present Report has been appended a list of all the Members of the Society for the session now being closed. It will have some interest for the Members in general in various ways, and may be serviceable to such as feel disposed to use their influence in adding new names to the number.

#### OFFICE-BEARERS FOR SESSION 1867-68.

*President*—DAVID JOHNSTONE, Esq.

*Vice-Presidents*—Messrs ARCHIBALD MONTGOMERIE, L.L.D., W. B. PAUL, and  
W. J. MARSHALL, M.D.

*Treasurer*—Mr ROBERT H. HOUSTON.

*Secretary*—Mr JOHN LOVE.

#### *Committee.*

Messrs ALEXANDER SWAN.

JOHN JAMIESON.

JOHN JACK.

WILLIAM HASTIE.

STEWART ROBERTSON.

H. L. TENNENT.

T. P. MACCALLUM.

DAVID GREGORSON.

Messrs JOHN C. HUNTER.

DUNCAN SHAW.

T. L. PATTERSON.

G. R. M'DOUGALL.

A. O. LEITCH.

JOHN STEWART.

W. SCOTT AITKEN, M.B.

## HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S., F.G.S.  
 John Shaw.  
 C. Greville Williams, F.R.S.  
 Richard Chalmers.  
 Edward Caird, B.A.

James B. Stephens.  
 David Hill.  
 Cosmo Innes, M.A.  
 Robert Morton, B.A.

## ORDINARY MEMBERS.

George Adam.  
 William Adam.  
 James Aitken.  
 Wm. Scott Aitken, M.B.  
 James G. Alexander.  
 Stewart Allison.  
 William Allison.  
 Thomas Anderson.  
 Wm. S. Anderson.  
 Matthew Arbuckle.  
 R. A. Baird.  
 James Barnard.  
 Robert Binnie.  
 James W. Black.  
 Edward Blackmore.  
 Robert Blair.  
 Robert Blair.  
 Andrew Boag.  
 Quintin Bone.  
 James Brown.  
 Matthew Brown.  
 Graham Brymner.  
 Colin S. Caird.  
 James T. Caird.  
 Patrick Caird.  
 John Cameron.  
 Duncan Campbell.  
 James Carmichael.  
 Peter Christie.  
 Andrew Clark.  
 Alexander Crawford.  
 Andrew Crawford.  
 Hugh Crawford.  
 Alexander Currie.  
 Hugh Dempster.  
 Robert Dick.  
 Henry Dickie.  
 T. N. Douglas.  
 James Duncan.  
 Samuel Duncan.  
 M. F. Dunlop.  
 Rowland Field.  
 A. M. Fleming.  
 Robert Fullarton.  
 William Gordon, R.C.C.  
 David Gregorson.  
 J. J. Grieve.  
 William Hair.  
 Robert Hamilton.  
 William Hastie.  
 R. H. Houston.  
 John C. Hunter.  
 T. O. Hunter.  
 Joseph Hyndman.  
 John Jack.

John Jamieson.  
 David Johnstone.  
 Frederick Johnston.  
 Thomas Kincaid.  
 Thomas King.  
 C. D. Lamont.  
 James Lang.  
 James Lang, junr.  
 John Lang.  
 A. O. Leitch.  
 W. O. Leitch.  
 Robert Lilley.  
 William Lindsay.  
 James Little.  
 Robert Little.  
 John Love.  
 Robert Lusk.  
 James M'Bride.  
 Robert K. M'Bride.  
 Archibald MacCallum.  
 Duncan M'Callum.  
 T. P. MacCallum.  
 William M'Clure.  
 Donald Macdonald.  
 G. R. M'Dougall.  
 Dugald M'Eachran.  
 Andrew McFarlan.  
 Dugald McFarlan.  
 T. M. Macfarlane.  
 John Macgregor.  
 Alexander Mackellar.  
 Alexander Mackenzie.  
 Hugh M'Lachlan.  
 James M'Lean.  
 R. S. M'Morland.  
 Thomas M'Naught.  
 William Macnaught.  
 James Mackie, M.D.  
 Hugh S. Main.  
 W. J. Marshall, M.D.  
 James Miller, junr.  
 A. Montgomerie, LL.D.  
 Alexander S. Mories.  
 Andrew C. Morton.  
 James Morton.  
 David Murray.  
 John Neill, junr.  
 Robert Neill.  
 Stewart Neill.  
 William Neill.  
 John Nelson, D.D.  
 Alexander Nicol.  
 Samuel Nicol.  
 A. Noble, Capt., R.A.  
 B. Noble.

J. B. O'Neil.  
 Andrew R. Orr.  
 John Orr, junr.  
 William Orr.  
 Alexander Paterson.  
 T. L. Patterson.  
 A. P. Paton.  
 John Paul.  
 W. B. Paul.  
 Joseph Pennell.  
 William Philp.  
 John Prentice.  
 Thomas Prentice.  
 Daniel Rankine.  
 C. F. Reid, R.C.C.  
 Stewart Robertson.  
 William Ross.  
 John Russell.  
 David Scott.  
 John Scott, yst.  
 John H. Scott.  
 James Sdeuad.  
 Robert Shankland.  
 Charles Shannon.  
 Duncan Shaw.  
 James Shaw.  
 William Shearer.  
 Thomas Stark.  
 A. C. C. Statham.  
 James Steele.  
 Robert Steele, junr.  
 William Steel.  
 James Stewart.  
 James Stewart, junr.  
 John Stewart.  
 Samuel Stewart.  
 Alexander Swan.  
 Archibald Sword.  
 Colin B. Sword.  
 Andrew Tasker.  
 H. L. Tennent.  
 James Thomson.  
 W. W. Thomson.  
 William Turner.  
 Hugh Walker.  
 H. W. Walker.  
 William Watt.  
 James Welsh.  
 George Wilson.  
 W. A. Wilson, M.D.  
 Robert Wright.  
 James York.  
 Robert Young.  
 Stephen Yuill.



# SEVENTH ANNUAL REPORT

OF THE

## GREENOCK PHILOSOPHICAL SOCIETY.

READ AND APPROVED AT THE MEETING OF THE SOCIETY HELD IN THE WATT MONUMENT ON 13TH MARCH, 1868—DR. ARCHD. MONTGOMERIE IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### DR.

Balance from last year, . . . . .	£2 15 2	
Subscriptions of 155 Members at 10s 6d, . . . . .	81 7 6	
111 Tickets for Ladies and Youths at 2s 6d, . . . . .	13 17 6	
Interest on Bank Account, . . . . .	0 16 5	
	<hr/>	£98 16 7

#### CR.

Rent and Gas, . . . . .	£12 0 0	
Officer's Salary, Coals, Cleaning, and Attendance, . . . . .	7 4 8	
Fees and Expenses for Lectures, including Printing of Papers No. 4 and 5 (per contract), . . . . .	60 7 6	
Printing and Addressing Annual Report, Programmes, Circulars, and Tickets, . . . . .	6 9 0	
Lithographing Members' Tickets, . . . . .	1 2 0	
Advertisements, . . . . .	2 8 0	
Tradesmen's Accounts, . . . . .	3 9 6	
Stationery, Postages, and Incidental Expenses, . . . . .	3 15 10	
Balance in Bank, . . . . .	2 0 1	
	<hr/>	<u>£98 16 7</u>

Greenock, 13th March, 1868.

E.E.

(Signed) ROBT. H. HOUSTON, *Treasurer.*

Greenock, 13th March, 1868—Examined and found correct.

(Signed) A. O. LEITCH,  
GEO. R. M'DOUGALL, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

THE Society closes its seventh winter with a small balance of cash in the Treasurer's hands, and with, perhaps, as fair a prospect of continued existence as it has at any time ever had. The number of Members during the past Session has been 155, and the number of Tickets taken out for Ladies and Youths, 111.

The Programme of Papers and Lectures delivered at the Friday Evening Meetings is as follows :—

SUBJECTS IN SCIENCE :—“The Geological Survey of Scotland,” by Mr Archibald Geikie, F.R.S.; “The Present State of Knowledge regarding Meteors and Meteorites,” by Mr Alex. S. Herschel, B.A., F.R.A.S.; “The Animal Kingdom of the Ancient World” (two lectures), by Mr B. Waterhouse Hawkins, F.L.S.; “Notes on Geographical Discovery and Research in the 19th Century,” by Dr Alex. Keith Johnston, F.R.S.E.; “Revelations of the Microscope,” by Dr W. S. Aitken; “Observing Astronomy in the time of Newton, and its relation to the Theory of Gravitation,” by Professor Robert Grant, F.R.S.—all illustrated with diagrams and sketches, some of them very extensively.

IN LITERATURE, HISTORY, AND TRAVEL :—“Old Church Records of Greenock, touching Men, Manners, and Localities about the Year 1700,” by Rev. James Rankin, M.A.; “Recollections of a Three Years' Residence in St Petersburg,” by Mr James Miller Jr.; “Scotch and English Ballads,” and “Scotch Literature to the close of the 16th Century,” by Professor John Nichol, B.A.; “The Antiquities of Scotch Trade,” by Professor Cosmo Innes, M.A.; “Scotch Proverbs,” by Rev. Dr J. M. M'Culloch.

READINGS :—“Richard Brinsley Sheridan, his Life, Times, and Writings—with illustrative Readings,” by Mr G. W. Baynham; and “Shakspeare's *Hamlet*, with Readings of the Principal Scenes” by Mr Allan Park Paton.

On this occasion we have again to acknowledge the friendly co-operation of the eminent record-scholar, Professor Innes, and of Mr Geikie, the director of H.M. Geological Survey of Scotland, whose good offices have always been liberally exercised for the benefit of the Society.

It is also our very agreeable duty now to offer our special thanks to those Members and other friends in Greenock who have done us the favor to prepare papers during the Session, namely—Dr M'Culloch and Mr Rankin; Mr Miller, Dr Aitken, and Mr Paton.

The Lecture in honor of the Anniversary of Watt's Birth was this year obligingly written by Dr Alexander Keith Johnston, of Edinburgh, whose ambition and whose distinguished lot it has been at once to exalt and to popularise the science of Geography in this country.

The lecture by Dr Keith Johnston, and that by Mr Rankin, have, with

the kind consent of their authors, been printed for the use of the Members of the Society.

The Monthly Meetings of the Microscopical Section, have been maintained throughout the year with unabated interest. For the opportunities thus afforded of practical study in this important department, the Society is much indebted to the experience and skill of Dr Aitken.

In making the arrangements for the business of this Session, the Committee took steps to organise what had often in previous years been privately mooted, namely, a Reading Party. At a meeting of the Society, held for the purpose, the subject of Political Economy was preferred, and Mill's "Principles" was selected as the text-book. A good number of Members having gone in with the proposal, it has been carried through, under the fortunate presidency of Dr Marshall, with decided and gratifying success. The method of proceeding has been to allot for conversation at each meeting a certain portion of the book, to be studied with that view beforehand by the individual members—the Chairman undertaking to open the evening with a brief statement of the author's argument; and in this way about one half of the work has, up to this time, been progressively discussed.

The Committee have constantly been solicitous to appreciate and adopt all suggestions which have come from the Members, if they were in any degree within the scope of the Society, and there seemed any reasonable chance of benefit to be derived from them. What has thus been hitherto our uniform care will continue to be the rule of management still, so that in every way, as much as possible, practical advantage may arise from the sustained operations of the Society.

#### OFFICE-BEARERS FOR SESSION 1868-69.

*President*—DAVID JOHNSTONE, Esq.

*Vice-Presidents*—MESSRS W. B. PAUL, W. J. MARSHALL, M.D., and  
JAMES MILLER, Jr.

*Treasurer*—MR ROBERT H. HOUSTON.

*Secretary*—MR JOHN LOVE.

#### *Committee.*

MESSRS T. P. MACCALLUM.  
JOHN C. HUNTER.  
DUNCAN SHAW.  
T. L. PATTERSON.  
G. R. M'DOUGALL.  
A. O. LEITCH.  
JOHN STEWART.  
W. SCOTT AITKEN, M.B.

MESSRS EDWARD BLACKMORE.  
HUGH DEMPSTER.  
JOHN MACGREGOR.  
ALEX. MACKELLAR.  
ALEX. S. MORIES.  
JOHN B. O'NEIL.  
THOMAS PRENTICE.

## HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S., F.G.S.  
 John Shaw.  
 C. Greville Williams, F.R.S.  
 Richard Chalmers.  
 Edward Caird, B.A.

James B. Stephens.  
 David Hill.  
 Cosmo Innes, M.A.  
 Robert Morton, B.A.

## ORDINARY MEMBERS.

George Adam.  
 James Aitken.  
 Wm. Scott Aitken, M.B.  
 James G. Alexander.  
 Stewart Allison.  
 William Allison.  
 Thomas Anderson.  
 Wm. S. Anderson.  
 Matthew Arbuckle.  
 James Barnard.  
 Robert Binnie.  
 Arch. J. Black.  
 James W. Black.  
 Edward Blackmore.  
 Andrew Boag.  
 Quintin Bone.  
 James Brown.  
 Matthew Brown.  
 Graham Brymner.  
 Colin S. Caird.  
 James T. Caird.  
 John Cameron.  
 Dugald Campbell.  
 Duncan Campbell.  
 James Carmichael.  
 Robert Chalmers.  
 Andrew Clark.  
 Alexander Crawford.  
 Andrew Crawford.  
 Hugh Crawford.  
 Alexander Currie.  
 Hugh Dempster.  
 T. N. Douglas.  
 James Duncan.  
 M. F. Dunlop.  
 John Erskine.  
 Rowland Field.  
 A. M. Fleming.  
 Hugh Fullarton.  
 William Gordon, R.C.C.  
 James J. Grieve.  
 And. J. Gunion, D.D.  
 William Hair.  
 Robert Hamilton.  
 John Hastie.  
 William Hastie.  
 Robert Hill.  
 James Hendry.  
 R. H. Houston.  
 John C. Hunter.  
 T. O. Hunter.  
 Joseph Hyndman.

John Jack.  
 John Jamieson.  
 David Johnstone.  
 Frederick Johnston.  
 Thomas Kincaid.  
 Thomas King.  
 C. D. Lamont.  
 James Lang.  
 John Lang.  
 A. O. Leitch.  
 William Lindsay.  
 Robert Little.  
 John Love.  
 Robert Lusk.  
 James M'Bride.  
 Robert K. M'Bride.  
 Archibald MacCallum.  
 Duncan M'Callum.  
 T. P. MacCallum.  
 William M'Clure.  
 Donald MacDonald.  
 G. R. M'Dougall.  
 Dugald M'Eachran.  
 Andrew M'Farlan.  
 Dugald M'Farlan.  
 John Macgregor.  
 Alexander Mackellar.  
 Alexander Mackenzie.  
 H. C. Mackinlay.  
 Hugh M'Lachlan.  
 James M'Lean.  
 R. S. M'Morland.  
 Thomas M'Naught.  
 William Macnaught.  
 James Mackie, M.D.  
 Hugh S. Main.  
 W. J. Marshall, M.D.  
 James Miller, junr.  
 A. Montgomerie, LL.D.  
 Alexander S. Mories.  
 Andrew C. Morton.  
 James Morton.  
 David Murray.  
 John Neill, junr.  
 Robert Neill.  
 Stewart Neill.  
 William Neill.  
 John Nelson, D.D.  
 Samuel Nicol.  
 A. Noble, Capt., R.A.  
 B. Noble.  
 J. B. O'Neil.

Andrew R. Orr.  
 John Orr, junr.  
 William Orr.  
 Alexander Paterson.  
 T. L. Patterson.  
 John Paul.  
 W. B. Paul.  
 Joseph Pennell.  
 William Philp.  
 John Prentice.  
 Thomas Prentice.  
 Daniel Rankine.  
 C. F. Reid, R.C.C.  
 Stewart Robertson.  
 William Ross.  
 Alexander Scott, junr.  
 David Scott.  
 John Scott, yst.  
 John H. Scott.  
 Robert Shankland.  
 Charles Shannon.  
 Duncan Shaw.  
 James Shaw.  
 William Shearer.  
 Robert Spier.  
 Thomas Stark.  
 James Steele.  
 Robert Steele, junr.  
 William Steel.  
 James Stewart.  
 John Stewart.  
 Robert Stewart.  
 Samuel Stewart.  
 Alexander Swan.  
 Archibald Sword.  
 Colin B. Sword.  
 Andrew Tasker.  
 William Taylor.  
 H. L. Tennent.  
 James Thomson.  
 W. W. Thomson.  
 William Turner.  
 Hugh Walker.  
 H. W. Walker.  
 William Watt.  
 James Welsh.  
 George Wilson.  
 W. A. Wilson, M.D.  
 James York.  
 Robert Young.  
 Stephen Yuill.

PRESENTED

22 SEP 1938



# EIGHTH ANNUAL REPORT

OF THE

## GREENOCK PHILOSOPHICAL SOCIETY.

READ AND APPROVED AT THE MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT ON 5TH MARCH, 1869.—JAMES MILLER, JUN., ESQ., IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### Dr.

Balance from last year, - - - -	£2 0 1	
Subscriptions of 140 Members at 10s 6d, - -	73 10 0	
Half do. „ 5 do. „ 5s 6d, - -	1 7 6	
95 Tickets for Ladies and Youths at 2s 6d, -	11 17 6	
Interest on Bank Account, - - - -	0 13 5	
		£89 8 6

#### Cr.

Rent and Gas, - - - - -	£12 0 0	
Town Assessments, - - - - -	1 0 10	
Officer's Salary, Coals, Cleaning, and Attendance, -	7 4 6	
Fees and Expenses for Lectures, - - - -	46 9 2	
Printing and Addressing Annual Report, Pro- grammes, Circulars, and Tickets. - -	4 19 0	
Lithographing Members' Tickets, - - -	0 17 0	
Advertisements, - - - - -	2 13 6	
Tradesmen's Accounts, - - - - -	2 6 6	
Stationery, Postages, and Incidental Expenses, -	3 12 0	
Balance in Bank, - - - - -	8 6 0	
		£89 8 6

Greenock, 4th March, 1869.

E.E.

(Signed) ROBT. H. HOUSTON, *Treasurer.*

Greenock, 4th March, 1869.—Examined and found correct.

(Signed) ALEX. MACKELLAR, }  
ALEX. S. MORIES, } *Auditors.*

## STATEMENT OF PROCEEDINGS.

THE Treasurer's statement for the past year gives a favourable account of the finances of the Society. The number of Members on the roll is 145, and the number of Tickets issued for Ladies and young persons is 95.

The list of Papers and Lectures delivered during the Session is as follows :—

SUBJECTS IN SCIENCE :—"Geological Evidences of Man's Antiquity," by Dr. David Page, F.R.S.E. ; "The Eye," by Dr. Wm. Scott Aitken ; "British Sea Birds and their Haunts," by Mr Robert Gray ; "The Physical Geography of Palestine, with Notes on Recent Topographical Explorations," by Dr. A. Keith Johnston, F.R.S.E. ; "Elasticity as an Effect of Motion," by Professor Sir William Thomson, LL.D., F.R.S. : "An Examination of the Geological Arguments for the Antiquity of Man," by Mr William Keddle, F.R.S.E. ; "Combustion, with reference to Recent Researches on the Properties of Flame," by Mr Robert R. Tatlock, F.C.S.

IN POLITICAL ECONOMY :—"The Incidence of Local Taxation," by Mr David Murray.

IN BELLES LETTRES, HISTORY, AND ART :—"The Life and Poetry of Dante," by Professor Edward Caird, B.A. ; "The Imagination," by Dr. W. J. Marshall ; "Milton's Poetry," by Professor John Nichol, B.A. ; "Gustavus Adolphus, and the Thirty Years' War," (Two Lectures), by Rev. John Nelson, D.D. ; "Early Methods of Painting, including Fresco Painting," by Mr Charles Heath Wilson.

DRAMATIC READING.—"The Wits and Humorists of Shakspeare," by Mr G. W. Baynham.

The Session was auspiciously opened with a lecture by Professor Edward Caird, to whom, for his kind contribution, the Members now, as in a former year, owe their cordial acknowledgments.

Professor Sir William Thomson did the Society the honor to deliver the Watt Anniversary Lecture for the current year, and presented, on that occasion, some of the most interesting results of recent investigation in Natural Philosophy.

Our special thanks are due to Dr Marshall, Dr Aitken, Mr Murray, and Dr. Nelson, Members of the Society, for instructive lectures delivered by them.

Mr Tatlock's elaborate and valuable lecture illustrated an important subject, which had not previously been brought before the Society.

By an undesigned coincidence, the Members had the advantage, this year, of hearing both sides of the geological argument regarding the "Antiquity of Man." Dr Page on the one hand, and Mr Keddle on the other, were well qualified to discuss the opposite aspects of this debated subject.

Dr Keith Johnston, at one of the December meetings of the Society advocated the claims of the Palestine Exploration Fund, and, since his visit, a local Treasurer for that Fund has been appointed in Greenock namely, Mr Donald MacDonald. It is an undertaking of almost unique interest, and has received the approval and liberal aid of the British Association, the Royal Society, the Royal Geographical Society, and other distinguished bodies, besides having been sanctioned by the highest personal patronage in the land. The object of the Association is to investigate the archæology, topography, geology and physical geography, natural history, manners and customs of Palestine; and to do all this in a more formal and exhaustive manner than has hitherto been attempted. A more attractive cause could hardly be recommended to an intelligent community.

The Reading Party on Political Economy, under the presidency of Dr. Marshall, have, this session, completed the perusal of Mill's work on that subject, and have proceeded to take up another volume by the same high authority. The experience of this little association of Members has proved how agreeably a book requiring careful study may be got through by reading it in concert with others. In future winters, other parties who may unite to select other works on subjects worthy of their pains, will receive every kind of encouragement from the Committee.

Arrangements will be made, as usual, for a few Excursions to be enjoyed by the Members, when the season is sufficiently advanced for the purpose.

#### OFFICE-BEARERS FOR SESSION 1869-70.

*President*—W. J. MARSHALL, Esq., M.D.

*Vice-Presidents*—Messrs JAMES MILLER, Jr., THOMAS PRENTICE, and JOHN MACGREGOR.

*Treasurer*—Mr GEO. R. M'DUGALL.

*Secretary*—Mr JOHN LOVE.

#### *Committee.*

Messrs A. O. LEITCH.  
JOHN STEWART.  
W. SCOTT AITKEN, M.B.  
EDWARD BLACKMORE.  
HUGH DEMPSTER.  
ALEX. MACKELLAR.  
ALEX. S. MORIES.  
JOHN B. O'NEIL.

Messrs WILLIAM M'CLURE.  
WILLIAM HAIR.  
JOHN ERSKINE.  
BENJAMIN NOBLE.  
SAMUEL NICOL.  
ROBERT YOUNG.  
M. F. DUNLOP.

## HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S., F.G.S.  
John Shaw.  
C. Greville Williams, F.R.S.  
Richard Chalmers.  
Edward Caird, B.A.

James B. Stephens.  
David Hill.  
Cosmo Innes, M.A.  
Robert Morton, B.A.

## ORDINARY MEMBERS.

George Adam.  
Alex. Adamson.  
James Aitken.  
Wm. Scott Aitken, M.B.  
James G. Alexander.  
Thomas Anderson.  
Wm. S. Anderson.  
Matthew Arbuckle.  
James Auld.  
James Barnard.  
James Barr.  
Robert Binnie.  
Arch. J. Black.  
James W. Black.  
Edward Blackmore.  
Robert Blair.  
Quintin Bone.  
Matthew Brown.  
Graham Brynmner.  
Colin S. Caird.  
James T. Caird.  
Dugald Campbell.  
Robert Chalmers.  
Andrew Clark.  
Alexander Crawford.  
Andrew Crawford.  
Alexander Currie.  
Hugh Dempster.  
T. N. Douglas.  
James Duncan.  
M. F. Dunlop.  
D. M. Erskine.  
John Erskine.  
Rowland Field.  
Robert Finlay.  
A. M. Fleming.  
Hugh Fullarton.  
James Glen.  
William Gordon, R. C. C.  
James J. Grieve, M.P.  
William Hair.  
Robert Hamilton.  
John Hastie.  
Robert Hill.  
G. W. Houston.  
R. H. Houston.  
John C. Hunter.  
T. O. Hunter.  
Joseph Hyndman.  
John Jack.

David Johnstone.  
Frederick Johnston.  
Thomas Kincaid.  
Thomas King.  
John Kinloch.  
C. D. Lamont.  
John Lang.  
A. O. Leitch.  
W. O. Leitch.  
Robert Little.  
John Love.  
Robert Lusk.  
R. G. Lyle.  
James McBride.  
Robert K. McBride.  
T. P. MacCallum.  
William McClure.  
Donald MacDonald.  
G. R. McDougall.  
Dugald McEachran.  
Andrew Macfarlan.  
Robert Macfarlane.  
John Macgregor.  
Alexander Mackellar.  
James McLean.  
R. S. McMorland.  
John McPhail.  
Thomas McNaught.  
James Mackie, M.D.  
Hugh S. Main.  
Claud Marshall.  
W. J. Marshall, M.D.  
James Miller, Junr.  
A. Montgomerie, LL.D.  
Alexander S. Mories.  
Andrew C. Morton.  
James Morton.  
David Murray.  
John Neill, junr.  
Robert Neill.  
Stewart Neill.  
William Neill.  
William J. Neill.  
John Nelson, D.D.  
Samuel Nicol.  
A. Noble, Capt., R.A.  
B. Noble.  
J. B. O'Neil.  
W. K. Oliphant.  
John Orr, junr,

William Orr.  
Alexander Paterson.  
T. L. Patterson.  
John Paul.  
W. B. Paul.  
Joseph Pennell.  
William Philp.  
John Prentice.  
Thomas Prentice.  
Daniel Rankine.  
Stewart Robertson.  
William Ross.  
T. B. Rowan.  
Alexander Scott, junr.  
John Scott, yst.  
J. D. Scott.  
John H. Scott.  
Robert Shankland.  
Charles Shannon.  
Duncan Shaw.  
James Sibbald.  
William Shearer.  
A. C. Smith.  
Robert Spier.  
Thomas Stark.  
James Steele.  
Robert Steele, junr.  
William Steel.  
James Stewart.  
John Stewart.  
Robert Stewart.  
Samuel Stewart.  
Archibald Sword.  
Colin B. Sword.  
Andrew Tasker.  
William Taylor.  
H. L. Tennent.  
W. W. Thomson.  
John A. Turnbull.  
William Turner.  
Hugh Walker.  
H. W. Walker.  
William Watt.  
James Welsh.  
George Wilson.  
W. A. Wilson, M.D.  
James York.  
Robert Young.



# NINTH ANNUAL REPORT

OF THE

## PHILOSOPHICAL SOCIETY OF GREENOCK.

READ AND APPROVED OF AT A MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT ON 18TH MARCH, 1870.—THOMAS PRENTICE, ESQ., IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### DR.

Balance from last year, - - -	-	£8 6 0	
Subscriptions from 137 Members at 10s 6d, -	-	71 18 6	
Half-Session do. 5 do. „ 7s 6d, -	-	1 17 6	
86 Tickets for Ladies and Youths at 2s 6d, -	-	10 15 0	
Interest on Bank Account, - - -	-	0 3 6	
			£93 0 6

#### CR.

Rent and Gas, - - - - -	-	£12 0 0	
Town Assessments, - - - - -	-	1 5 6	
Officer's Salary, Coals, Cleaning, and Attendance, -	-	7 11 0	
Fees and Expenses for Lectures, - - -	-	45 8 1	
Printing and Addressing Annual Report, New List of Rules, Programmes, &c. - - -	-	4 17 0	
Lithographing Tickets, - - - - -	-	1 4 0	
Advertisements, - - - - -	-	12 9 0	
Tradesmen's Accounts, - - - - -	-	1 8 6	
Stationery, Postages, and Incidental Expenses, -	-	1 4 0	
Balance in Bank, - - - - -	-	5 13 5	
			£93 0 6

Greenock, 16th March, 1870.

E. & O. E.

(Signed)

GEO. R. M'DOUGALL, *Treasurer.*

Greenock, 17th March, 1870.—We have examined the foregoing account and compared vouchers which are all in order and correct.

(Signed)

A. O. LEITCH,  
ALEX. MACKELLAR, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

THE Treasurer's statement for the past year shows a balance on hand of £5 13s 5d.

The number of Members on the roll is 142, and the number of tickets issued to Ladies and young persons is 86.

The following Papers and Lectures were delivered during the Session :—

**SUBJECTS IN SCIENCE.**—"The Earth: its Waste and Reconstruction," and "Scenery: its Characteristics and Causes," (Two Lectures) by Dr David Page, F.R.S.E.; "The Sun," by Professor Robert Grant, LL.D., F.R.S.

**IN BELLES-LETTRES, HISTORY AND ART.**—"The Greek Tragic Drama: Æschylus," (Two Lectures) by Mr Claud Marshall; "Musical Jottings—chiefly Historical," by Mr John M. Hutcheson; "Poetry in relation to the Culture of an Age," by the Rev. John G. Stobbs; "The Rocky Mountains," by Mr W. Hepworth Dixon; "Nature and Art," by Professor John Veitch, M.A.; "To Egypt and Back: Reminiscences of Six Months in the Service of His Highness the late Said Pacha," by Mr James Miller; "The Struggle between William the Silent, Prince of Orange, and Philip II. of Spain, with its issue in the independence of the Netherlands," by the Rev. John Nelson, D.D.; "Poetry and Art," by Mr John Fraser.

**DRAMATIC READINGS.**—Shakspeare's Tragedy, "Julius Cæsar," by Mr Allan Park Paton; "Miscellaneous Readings and Recitations," by Mr Harcourt Beatty.

It will be observed that the greater portion of the Lectures delivered have been on literary subjects; and it is unnecessary to remark that all of them have been treated in a manner eminently worthy of the Society and the gentlemen who delivered them.

The Session was opened by Dr Page with a highly interesting paper on Physical Geography.

The Watt Lecture was delivered by Dr Grant, the distinguished Professor of Astronomy in Glasgow University.

The Society are much indebted to Mr Marshall, Mr Hutcheson, the Rev. Mr Stobbs, Mr Miller, and Dr Nelson for the valuable papers contributed by them. The Society can only hope that other members and friends will, in the ensuing session, imitate the good example of the gentlemen named, by taking part in the next course of lectures.

At the beginning of the session a number of members formed themselves into a "Reading Party," similar to those which had been so successfully carried out in the two previous sessions. The work chosen for study was Dr Page's "Physical Geography," which has occupied the party throughout the winter, and has brought before the members many subjects of the highest interest.

The members of this party have arranged to make a few Excursions during the summer months for the purpose of observing the objects of interest in the neighbourhood, and they will be glad to have the company of other Members of the Society. Gentlemen who wish to join the Excursions should give intimation to the Secretary or Treasurer.

To the regret, not only of the Reading Party but of the whole Society, Dr Marshall, the esteemed President, has, on account of his health, been compelled for some time to be absent from the meetings of the Society. The Society, however, are glad to know that he is now convalescent, and that in a short time he may expect to be completely recovered.

While regretting the absence of the President, the Committee cannot omit to refer to the loss they and the Society have sustained in the death of Dr Wm. Scott Aitken. Dr Aitken had before him the prospect of a very distinguished career in his own profession, and in its especial walks he will be much missed, but not more so than he will be in the Society itself. Amid the difficulties of organizing the Society's annual programme, no one could display a greater variety of resources, or a deeper interest than Dr Aitken; and if the society attained no other end than that of affording opportunities of intercourse with such a friend as Dr Aitken, it would still accomplish a very high purpose indeed.

At the commencement of the session Mr Love, who had acted as Secretary of the Society almost since its formation, felt it incumbent on him, on account of the state of his health, to resign his office. Much as the Society regretted to lose the valuable services of Mr Love, they could not, in the circumstances, refuse to accept of Mr Love's resignation. The Society, at the time, took occasion to record in their minutes, and to convey to Mr Love, their deep sense of the great obligations they were under to him for his able management of the affairs of the Society during the long period he had been Secretary. The office rendered vacant by the retirement of Mr Love was filled up by the appointment of Mr Glen.

#### OFFICE-BEARERS FOR SESSION 1870-71.

*President*—W. J. MARSHALL, Esq., M.D.

*Vice Presidents*—THOMAS PRENTICE, Esq., and WILLIAM M'CLURE, Esq.

*Treasurer*—MR GEO. R. MACDOUGALL.

*Secretary*—MR JAMES GLEN.

#### *Committee.*

Messrs ALEX. MACKELLAR.  
ALEX. S. MORIES.  
JOHN B. O'NEILL.  
FREDERICK JOHNSTON.  
WILLIAM HAIR.  
JOHN ERSKINE.  
BENJAMIN NOBLE.  
SAMUEL NICOL.

Messrs ROBERT YOUNG.  
M. F. DUNLOP.  
REV. JOHN NELSON, D.D.  
T. L. PATERSON.  
R. H. HOUSTON.  
J. G. ALEXANDER.  
DONALD MACDONALD.

## HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S. F.G.S.  
 John Shaw.  
 G. Greville Williams, F.R.S.  
 Richard Chalmers.  
 Edward Caird, B.A.

James B. Stephens.  
 David Hill.  
 Cosmo Innes, M.A.  
 Robert Morton, B.A.

## ORDINARY MEMBERS 1869-70.

Alex. Adamson.  
 James Aitken.  
 Wm. Scott Aitken, M.B.  
 James G. Alexander.  
 Thomas Anderson.  
 Wm. S. Anderson.  
 Matthew Arbuckle.  
 James Auld.  
 James Barnard.  
 Robert Binnie.  
 James W. Black.  
 Edward Blackmore.  
 Robert Blair.  
 Quintin Bone.  
 Matthew Brown.  
 Graham Brymner.  
 Colin S. Caird.  
 Rev. Wm. Calder.  
 R. W. Campbell.  
 Alexander Crawford.  
 Alexander Currie.  
 Hugh Dempster.  
 Archd. Denniston.  
 T. N. Douglas.  
 James Duncan.  
 M. F. Dunlop.  
 D. M. Erskine.  
 John Erskine.  
 Charles Fraser.  
 Robert Finlay.  
 Robert B. Finlay.  
 A. M. Fleming.  
 James Glen.  
 Rev. Wm. Gordon, R.C.C.  
 James J. Grieve, M.P.  
 William Hair.  
 Robert Hamilton.  
 G. W. Houston.  
 R. H. Houston.  
 John C. Hunter.  
 T. O. Hunter.  
 Joseph Hyndman.  
 John Jack.  
 Rev. J. M. Jarvie.  
 David Johnstone.  
 Frederick Johnston.  
 Thomas Kincaid.

Thomas King.  
 W. R. Kinniple.  
 John Kinloch.  
 C. D. Lamont.  
 Wm. Lamont.  
 A. O. Leitch.  
 W. O. Leitch.  
 Robert Little.  
 Robert Lusk.  
 R. G. Lyle.  
 T. P. M'Callum.  
 William M'Clure.  
 Donald MacDonald.  
 G. R. M'Dougall.  
 Dugald M'Eachran.  
 Robert Macfarlane.  
 John Macgregor.  
 Alexander Mackellar.  
 P. Mackellar.  
 Rev. Ebenezer Maclean.  
 James M'Lean.  
 R. S. M'Morland.  
 John M'Phail.  
 Hugh S. Main.  
 Claud Marshall.  
 W. J. Marshall, M.D.  
 James Miller.  
 Alexander S. Mories.  
 Andrew C. Morton.  
 James Morton.  
 David Murray.  
 Geo. D. Neill.  
 John Neill, junr.  
 Robert Neill.  
 Stewart Neill.  
 William Neill.  
 William J. Neill.  
 Rev. John Nelson, D.D.  
 Samuel Nicol.  
 A. Noble, Capt., B.A.  
 B. Noble.  
 T. R. Ogilvie.  
 J. B. O'Neill.  
 W. K. Oliphant.  
 Andrew. R. Orr.  
 John Orr, junr.  
 William Orr.

Alexander Paterson.  
 T. L. Patterson.  
 John Paul.  
 W. B. Paul.  
 Joseph Pennell.  
 William Philp.  
 John Prentice.  
 Thomas Prentice.  
 Daniel Rankine.  
 Stewart Robertson.  
 T. B. Rowan.  
 J. W. Sandeman.  
 Alexander Scott, junr.  
 John Scott, yst.  
 J. D. Scott.  
 Robert Shankland.  
 Charles Shannon.  
 Duncan Shaw.  
 James Sibbald.  
 William Shearer.  
 James Slater, junr.  
 A. C. Smith.  
 James C. Smith.  
 John Somerville.  
 Robert Spier.  
 Robert Steele, junr.  
 William Steel.  
 James Stewart.  
 John Stewart.  
 Robert Stewart.  
 Samuel Stewart.  
 Archibald Sword.  
 Andrew Tasker.  
 William Taylor.  
 H. L. Tennent.  
 W. W. Thomson.  
 John A. Turnbull.  
 William Turner.  
 H. W. Walker.  
 William Watt.  
 James Welsh.  
 George Wilson.  
 W. A. Wilson, M.D.  
 James York.  
 Robert Young.



# TENTH ANNUAL REPORT

## OF THE PHILOSOPHICAL SOCIETY OF GREENOCK.

READ AND APPROVED OF AT A MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT ON 10TH MARCH, 1871.—THOMAS PRENTICE, ESQ., IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

Dr.		
Balance from last year, - - - - -	£5	13 5
Subscriptions from 134 Members at 10s 6d, - -	70	7 0
Half-Session do. 10 do. „ 5s 6d, - -	2	15 0
118 Tickets for Ladies and Youths at 2s 6d, - -	14	15 0
Interest on Bank Account, - - - - -	0	13 5
Balance due Treasurer, - - - - -	4	13 0
		£98 16 10
Cr.		
Rent and Gas, - - - - -	£12	0 0
Town Assessments, - - - - -	1	5 6
Officer's Salary, Coals, Cleaning, &c., - -	6	2 7
Fees and Expenses for Lectures, - - - -	61	19 0
Printing Annual Report, Circulars, &c., - -	3	12 0
Advertisements, - - - - -	5	3 0
Tradesmen's Accounts, - - - - -	4	3 11
Half Cost of Painting Hall, &c., - - - -	3	3 9
Stationery, Postages, and Incidental Expenses, -	1	7 1
		£98 16 10

Greenock, 10th March, 1871.

E. & O. E.

(Signed)

GEO. R. M'DOUGALL, *Treasurer.*

We have examined the foregoing account and compared same with the vouchers, and find it correct, the balance due to the Treasurer being Four pounds thirteen shillings.

(Signed)

M. F. DUNLOP,  
FRED. JOHNSTON, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

The Treasurer's statement for the past year shows a balance against the Society of £4 13s.

The number of Members on the roll is 144, and the number of tickets issued to Ladies and young persons is 118.

The following Papers and Lectures were delivered during the Session:—

**SUBJECTS IN SCIENCE.**—"Geographical Parallels," by Professor John Young, M.D.; "The Growth and Manufacture of Sugar," by Mr Robert Blair; "The Correlation of the Physical Forces," (Two Lectures) by Mr E. M. Dixon, B.Sc.; "Light and Colour," (Two Lectures) by Mr Robert R. Tatlock, F.R.S.E., F.C.S.; "The Homes of the People," by Mr James Salmon, C.E.; "Faraday's Lines of Force," by Professor J. Clerk Maxwell, F.R.S.L. & E.; "On Spectrum Analysis," by Mr T. L. Patterson, F.C.S.; "The Discoveries of Graham, the late Master of the Mint," by Mr T. R. Ogilvie; "The Illuminating Power and Impurities of Coal Gas," by Dr William Wallace; "The Scenery of Clyde Estuary: its Character and Significance," by Professor John Young, M.D.

**IN BELLES-LETTRES, HISTORY AND ART.**—"Reading—Selections from David Copperfield," by Mr G. W. Baynham; "The Position and Claims of Women," by Miss Emily Faithful; "Gothic Architecture in France, England, and Germany," (Two Lectures), by Dr Zerffi; "Travels in Western China, with the Expedition under Major Sladen, in 1867 and 1868," by Mr Alex. Bowers; "Our Australian Colonies," by Mr Geo. Elder.

The Session was opened by Dr Young, Professor of Natural History in the University of Glasgow, with a paper on Geographical Parallels.

The Watt Lecture was delivered by Professor Clerk Maxwell, F.R.S.L. & E. The subject of Lecture was Faraday's Lines of Force.

During the Session a Class for English Literature was conducted by Mr John Fraser, formerly Deputy Professor of English Literature in Glasgow University. The Class was so successful as to warrant the Committee in recommending that a similar class for prosecuting some other branch of study should be instituted next Session.

The Committee had also the good fortune to secure the services of Dr G. G. Zerffi, of the Science and Art Department of the South Kensington Museum, who delivered Two Special Lectures on Art, and which were highly appreciated.

These extra efforts on the part of the Society have, with some repairs on the Lecture Hall, entailed some additional expenditure, and, as will be observed, there is a balance in the Treasurer's account against the Society.

The Committee, however, on reviewing the proceedings of the past Session, conceive that they may fairly congratulate the Society on the termination of a Session which otherwise has been more than usually successful.

It is gratifying to remark that of the papers read no fewer than four were given by Members of the Society, and that their character was

such as to do great credit not only to the Society, but to the capacity and industry of the Members who gave them. In thanking these Members for their services, the Committee would take leave to express the hope that many others will in the next Session imitate their example. The thanks of the Society are also due to Mr Salmon, C.E., and to Mr Elder, of Knock Castle, who, during the course of the Session, read admirable papers on subjects of much practical interest. Mr Ballantine, the poet, has also in the kindest manner consented to read a paper on Jacobite Minstrelsy, but he has been unavoidably compelled to postpone it till the 31st inst., when it will be read in the Temperance Institute.

The Committee would take this opportunity of urging that an effort should be made to increase the roll of Members. The membership is at present almost stationary, but the Committee are satisfied that there are many gentlemen in town whose names ought to be on the roll of the Society.

The Office-bearers who retire are the President, Dr Marshall, Mr Thos. Prentice, one of the Vice-Presidents; and Messrs M'Kellar, Mories, O'Neill, Johnston, and Hair, Members of Committee. To both Dr Marshall and Mr Prentice the Society is much indebted for the deep and active interest which during their term of office they have taken in its business.

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#### OFFICE-BEARERS FOR SESSION 1871-72.

*President*—JAMES MILLER, Esq.

*Vice-Presidents*—WILLIAM M'CLURE, Esq., and Rev. JOHN NELSON, D.D.

*Treasurer*—MR GEO. R. MACDOUGALL.

*Secretary*—MR JAMES GLEN.

#### *Committee.*

Messrs JOHN ERSKINE.  
BENJAMIN NOBLE.  
SAMUEL NICOL.  
ROBERT YOUNG.  
M. F. DUNLOP.  
T. R. OGILVIE.  
T. L. PATTERSON.  
R. H. HOUSTON.

Messrs J. G. ALEXANDER.  
DONALD MACDONALD.  
FREDERICK JOHNSTON.  
W. K. OLIPHANT.  
SAMUEL STEWART.  
DUGALD M'Eachran.  
THOMAS PRENTICE.

## HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S., F.G.S.  
 John Shaw.  
 G. Greville Williams, F.R.S.  
 Richard Chalmers.  
 Edward Caird, B.A.

James B. Stephens.  
 David Hill.  
 Cosmo Innes, M.A.  
 Robert Morton, B.A.  
 J. Clerk Maxwell, F.R.S.L. & F.

## ORDINARY MEMBERS, 1870-71.

James Aitken.  
 Robert Allan.  
 J. G. Alexander.  
 Thomas Anderson.  
 William S. Anderson.  
 M. Arbuckle.  
 James Barnard.  
 Robert Binnie.  
 James W. Black.  
 A. J. Black.  
 Edward Blackmore.  
 Robert Blair.  
 Quintin Bone.  
 Alexander Bowers.  
 Matthew Brown.  
 Graham Brymner.  
 Colin S. Caird.  
 Duncan Campbell.  
 R. W. Campbell.  
 Alexander Crawford.  
 J. B. Crawhall.  
 Alexander Currie.  
 H. Dempster.  
 Archibald Denniston.  
 Joseph Dhanis.  
 T. N. Douglas.  
 James Duncan.  
 M. F. Dunlop.  
 D. M. Erskine.  
 John Erskine.  
 Robert B. Finlay.  
 T. B. Finlay.  
 A. C. Finlay.  
 A. M. Fleming.  
 Charles Fraser.  
 James Glen.  
 Rev. William Gordon.  
 J. J. Grieve, M.P.  
 William Hair.  
 Robert Hamilton.  
 G. W. Houston.  
 R. H. Houston.  
 John C. Hunter.  
 T. O. Hunter.  
 Joseph Hyndman.  
 David Johnstone.  
 Frederick Johnstone.  
 Thomas Kincaid.

Thomas King.  
 John Kinloch.  
 W. B. Kinniple.  
 John Lang.  
 C. D. Lamont.  
 A. O. Leitch.  
 W. O. Leitch.  
 Abram Lyle.  
 Charles Lyle.  
 W. McClure.  
 D. McDonald.  
 G. R. McDougall.  
 D. McEachran.  
 Robert McFarlane.  
 John A. Macfarlane.  
 Robert Macfarlane.  
 T. M. Macfarlane.  
 John McGregor.  
 Dugald McInnes.  
 P. McKellar.  
 Alexander McKellar.  
 James McLean.  
 R. S. McMorland.  
 John McPhail.  
 H. S. Main.  
 Claud Marshall.  
 Dr Marshall.  
 James Miller.  
 A. S. Mories.  
 A. C. Morton.  
 James Morton.  
 David Murray.  
 Thomas McNaught.  
 George D. Neill.  
 John Neill, junr.  
 Robert Neill.  
 Stewart Neill.  
 Thomas Neill, junr.  
 William J. Neill.  
 Rev. John Nelson, D.D.  
 Samuel Nicol.  
 Captain Noble.  
 Benjamin Noble.  
 T. R. Ogilvie.  
 J. B. O'Neill.  
 W. K. Oliphant.  
 Andrew R. Orr.  
 T. L. Patterson.

R. R. Paterson.  
 John Paul.  
 W. B. Paul.  
 H. T. Patten.  
 William Philp.  
 John Prentice.  
 Thomas Prentice.  
 Daniel Rankin.  
 William Rankin.  
 George Reiach.  
 Robert Rennie.  
 R. Richmond.  
 Stewart Robertson.  
 T. B. Rowan.  
 Alexander Scott.  
 Alexander Scott, junr.  
 J. D. Scott.  
 J. Scott, yst.  
 Robert Shankland.  
 Duncan Shaw.  
 William Shearer.  
 James Sibbald.  
 A. Skivington.  
 Jas. Slater, junr., B.A.  
 A. C. Smith.  
 James C. Smith.  
 Robert Spier.  
 Robert Steele, junr.  
 William Steele.  
 James Stewart.  
 Robert Stewart.  
 Samuel Stewart.  
 Archibald Sword.  
 H. L. Tennent.  
 W. W. Thomson.  
 John Thomson.  
 John A. Turnbull.  
 William Turner.  
 James W. Turner.  
 Hugh Walker.  
 H. W. Walker.  
 Edward Wilson.  
 William Watt.  
 Dr Wilson.  
 D. S. Wrede.  
 James York.  
 Robert Young.  
 Walter Yuill.



# ELEVENTH ANNUAL REPORT

## OF THE

# PHILOSOPHICAL SOCIETY OF GREENOCK.

READ AND APPROVED OF AT A MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT ON 15TH MARCH, 1872.—JAMES MILLER, ESQ., IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### DR.

Subscriptions from 153 Members at 10s 6d,	-	-	£80	6	6
Half-Session do. 1 do. „	-	-	0	5	6
124 Tickets for Ladies and Youths at 3s 6d,	-	-	21	14	0
Interest on Bank Account,	-	-	0	12	1
Balance due Treasurer,	-	-	8	12	10

£111 10 11

#### CR.

Balance from last statement,	-	-	-	-	£4	13	0	
Cost of Mr Ballantine's Lecture at close of last session,	-	-	-	}	£17	15	6	
Less received for Tickets,	-	-	-					11
						5	17	6
Rent and Gas,	-	-	-	-	-	12	0	0
Town Assessments,	-	-	-	-	-	1	5	6
Officer's Salary, Coals, Cleaning, &c.,	-	-	-	-	-	7	10	9
Fees and Expenses for Lectures,	-	-	-	-	-	60	13	6
Printing Annual Report, Circulars, &c.,	-	-	-	-	-	4	7	6
Advertisements,	-	-	-	-	-	4	2	6
Tradesmen's Accounts,	-	-	-	-	-	8	9	0
Stationery, Postages, and Incidental Expenses,	-	-	-	-	-	2	11	8

£111 10 11

Greenock, 14th March, 1872.

E. & O. E.

(Signed) GEO. R. M'DOUGALL, *Treasurer.*

We have examined the foregoing account and compared same with the vouchers, and find it correct, the balance due to the Treasurer being Eight pounds twelve shillings and tenpence.

(Signed) FRED. JOHNSTON, }  
D. M'Eachran, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

The Treasurer's statement for the past year shows a balance against the Society of £8 12s 10d.

The number of members on the roll is 154, being an increase of 10 on the number of last year. 124 tickets were sold to Ladies and youths, being an increase of 6 on the number issued during the previous Session.

The following Papers and Lectures were delivered during the Session :—

**SUBJECTS IN SCIENCE.**—"On the Study of Organic Nature," by Professor Allen Thomson, M.D.; "The Commercial History of Iron," by Professor Archer, F.R.S.E.; "The Western Coasts and Islands of Scotland," by Mr Dugald Bell; "On Hydrogenium: The Last Work of the late Thomas Graham, Master of the Mint," by Professor Dewar, F.R.S.E.; "On the General Principles of the Science of Heat," (Two Lectures) by Professor Dewar; "On the Vegetation of the Coal Period," by Mr William Carruthers.

**IN BELLES-LETTRES, HISTORY AND ART.**—"The Topography of Rome in relation to its Ancient History," by the Rev. William Laughton; Readings from Sir Walter Scott's "Heart of Mid Lothian," "Antiquary," and "Bride of Lammermoor," by Mr Allan Park Paton; "The Mediterranean," by the Rev. Peter Richardson, M.A.; "With the Germans in France," by Mr Archibald Forbes; "On the Icelandic Language and its similarity to English: The Literature of Iceland Old and Modern," by Mr Jón A. Hjaltalin; "On the Folklore and Popular Superstitions of Iceland," by Mr Jón A. Hjaltalin; "The Early Christian Church," by the Rev. W. W. Tulloch, B.D.; "Buddhism," by the Rev. John Caird, D.D.; "Notes of Alpine Travel," by the Rev. John Nelson, D.D.

The Session was opened by Dr Allen Thomson, Professor of Anatomy in the University of Glasgow, with a Paper on "The Study of Organic Nature." The Watt Lecture was delivered by Professor Thomas Archer, F.R.S.E., Director of the Museum of Science and Art. The subject was the "Commercial History of Iron."

At the conclusion of the opening lecture, Dr Thomson suggested to the Society the propriety of having a systematic course of lectures upon a scientific subject. This suggestion was the more readily acted upon from the fact that the course of lectures on English Literature had been so successfully carried through during the previous Session, and after due consideration the Committee resolved to arrange for a course of lectures upon Physiology. Dr. A. M. Buchanan, Demonstrator in Anatomy to Dr. Thomson, was kind enough to comply with the Committee's request that he should undertake the course, and it has been a great source of satisfaction to the Committee to find that these lectures have been exceedingly well attended, and very highly appreciated. To those who have had the opportunity of hearing the lectures, the Committee feel assured that it is unnecessary to say one word in commendation of Dr. Buchanan, or his peculiar excellencies as a teacher of Science.

The success of the lectures warrants the Committee in again recommending, as they did last year, that a systematic course of lectures upon a given subject should hereafter be a prominent feature of the Society's proceedings.

The other lectures forming the Society's ordinary course have all been of great merit.

The special thanks of the Society are due to Dr. John Caird, Dr Nelson, the Rev. William Laughton, and the Rev. W. W. Tulloch, for the admirable papers contributed by them.

While congratulating the Society upon its continued progress, and thanking those gentlemen who have contributed papers, the Committee have to notice with regret that Dr. Nelson, one of the occupants of the Vice-Chair, has been compelled by indisposition to resign his active duties for a time. Dr. Nelson has always been a warm friend of the Society, and the paper which he contributed this Session, the Committee are aware, was read at great personal inconvenience to himself, and just when he was on the point of starting on a foreign tour which he was recommended to take by medical advice. The Committee desire to express the hope that Dr. Nelson may soon return fully convalescent, and that the Society may upon some future occasion, as they have in the past, benefit by his observation and experience abroad.

The Committee feel called upon to advert to the loss the Society has sustained by the death of Mr. Claud Marshall. Mr. Marshall always took a deep and cordial interest in the affairs of the Society; and two Sessions ago he contributed two most valuable papers on the Greek Tragic Drama. In a commercial community like Greenock it is somewhat rare to meet with a mind of such culture as Mr. Marshall's, and the Committee, as well as all who knew Mr. Marshall, must feel that by his demise learning and benevolence have lost a friend.

The office-bearers who retire are:—Mr. William M'Clure, one of the vice-presidents; Mr. George R. M'Dougall, treasurer; Mr. James Glen, secretary; and Messrs John Erskine, Benjamin Noble, Samuel Nicol, Robert Young, and M. F. Dunlop, members of committee.

#### OFFICE-BEARERS FOR SESSION 1872-73.

*President*—JAMES MILLER, Esq.

*Vice-Presidents*—REV. JOHN NELSON, D.D., and JOHN C. HUNTER, Esq.

*Treasurer*—MR GEO. R. M'DOUGALL.

*Secretary*—MR JAMES GLEN.

#### *Committee.*

Messrs T. R. OGILVIE.  
T. L. PATTERSON.  
R. H. HOUSTON.  
J. G. ALEXANDER.  
DONALD M'DONALD.  
FREDERICK JOHNSTON.  
W. K. OLIPHANT.  
SAMUEL STEWART.

Messrs DUGALD M'EACHRAN.  
THOMAS PRENTICE.  
WM. M'CLURE.  
ALEX. SCOTT, JR.  
JOHN KINLOCH.  
A. S. MORIES.  
JAMES SLATER, JR., B.A.

#### HONORARY MEMBERS OF THE SOCIETY.

Archd. Geikie, F.R.S., F.G.S.  
John Shaw.  
G. Greville Williams, F.R.S.  
Richard Chalmers.  
Edward Caird, B.A.

James B. Stephens.  
David Hill.  
Cosmo Innes, M.A.  
Robert Morton, B.A.  
J. Clerk Maxwell, F.R.S.L. & F.

## ORDINARY MEMBERS, 1871-72.

David Agnew.  
 James Aitken.  
 Robert Allan.  
 J. G. Alexander.  
 Thomas Anderson.  
 William S. Anderson.  
 M. Arbuckle.  
 James Barnard.  
 Robert Binnie.  
 James W. Black.  
 A. J. Black.  
 Edward Blackmore.  
 Robert Blair.  
 Quintin Bone.  
 Matthew Brown.  
 Neil Brown.  
 Alex. Brown.  
 Graham Brymner.  
 Colin S. Caird.  
 R. W. Campbell.  
 J. H. Carmichael.  
 Thomas Carmichael.  
 Alexander Crawford.  
 Alexander Currie.  
 H. Dempster.  
 W. C. Denniston.  
 T. N. Douglas.  
 James Duncan.  
 M. F. Dunlop.  
 D. M. Erskine.  
 John Erskine.  
 Robert B. Finlay.  
 T. P. Finlay.  
 A. C. Finlay.  
 A. H. Finlay.  
 A. M. Fleming.  
 Charles Fraser.  
 Hugh Fullarton.  
 James Glen.  
 Rev. William Gordon.  
 J. J. Grieve, M.P.  
 William Hair.  
 Alex. Hall.  
 Robert Hamilton.  
 G. W. Houston.  
 R. H. Houston.  
 John C. Hunter.  
 T. O. Hunter.  
 John Hyndman.  
 David Johnstone.  
 Frederick Johnstone.

Thomas Kincaid.  
 Thomas King.  
 John Kinloch.  
 W. B. Kinipple.  
 John Lang.  
 C. D. Lamont.  
 William Lamont.  
 A. O. Leitch.  
 W. O. Leitch.  
 William Lindsay.  
 W. M'Clure.  
 D. M'Donald.  
 Roderick M'Donald.  
 D. M'Dougall.  
 G. R. M'Dougall.  
 D. M'Eachran.  
 Robert M'Farlane.  
 John A. Macfarlane.  
 Robert Macfarlane.  
 T. M. Macfarlane.  
 John M'Gregor.  
 Dugald M'Innes.  
 P. M'Kellar.  
 Alexander M'Kellar.  
 James M'Lean.  
 R. S. M'Morland.  
 John M'Phail.  
 H. S. Main.  
 Dr Marshall.  
 James Miller.  
 A. S. Mories.  
 A. C. Morton.  
 James Morton.  
 David Murray.  
 Thomas M'Naught.  
 George D. Neill.  
 John Neill, junr.  
 Robert Neill.  
 Stewart Neill.  
 Thomas Neill, junr.  
 William J. Neill.  
 Rev. John Nelson, D.D.  
 Samuel Nicol.  
 Captain Noble.  
 Benjamin Noble.  
 T. R. Ogilvie.  
 J. B. O'Neill.  
 W. K. Oliphant.  
 Andrew R. Orr.  
 T. L. Patterson.  
 R. R. Paterson.

John Paul.  
 W. B. Paul.  
 H. T. Patten.  
 William Philp.  
 John Prentice.  
 Thomas Prentice.  
 Daniel Rankin.  
 John J. Rankin.  
 William Rankin.  
 George Reiach.  
 Robert Rennie.  
 R. Richmond.  
 Dr J. K. Robertson.  
 T. B. Rowan.  
 Alexander Scott.  
 Alexander Scott, junr.  
 J. D. Scott.  
 J. Scott, yst.  
 Robert Shankland.  
 Duncan Shaw.  
 William Shearer.  
 A. Skivington.  
 Jas. Slater, junr., B.A.  
 A. C. Smith.  
 James C. Smith.  
 Robert Spier.  
 Thomas Stark.  
 Robert Steele, junr.  
 William Steele.  
 James Stewart.  
 Samuel Stewart.  
 Archibald Sword.  
 H. L. Tennent.  
 William Thomson.  
 W. W. Thomson.  
 John M. Thomson.  
 John A. Turnbull.  
 William Turner.  
 James W. Turner.  
 James Tweddel.  
 Hugh Walker.  
 H. W. Walker.  
 John Walker.  
 H. R. Walker.  
 Edward Wilson.  
 William Watt.  
 Dr Wilson.  
 D. S. Wrede.  
 James York.  
 Robert Young.  
 Walter Yuill.

PRESENTED

22 SEP 1938

FREE  
22 SEP 1873

# TWELFTH ANNUAL REPORT

OF THE

## PHILOSOPHICAL SOCIETY OF GREENOCK.

READ AND APPROVED OF AT A MEETING OF THE SOCIETY HELD IN THE WATT  
MONUMENT ON 14TH MARCH, 1873.—REV. DR. NELSON IN THE CHAIR.

### I.—STATEMENT OF ACCOUNTS.

#### Dr.

Subscriptions from 192 Members, at 10s 6d, -	-	£100	16	0
167 Tickets for Ladies and Youths, at 3s 6d, -	-	29	4	6
Interest on Bank Account, -	-	0	12	0
Sum received for admission of Non-Members, -	-	76	12	0
				<u>£207 4 6</u>

#### Cr.

Balance from last statement, -	-	-	-	8	12	10
Rent and Gas, -	-	-	-	12	0	0
Town and other Assessments, -	-	-	-	1	9	2
Officer's Salary, Coals, Cleaning, &c., -	-	-	-	6	19	0
Fees and Expenses for Lectures, -	-	-	-	113	19	8
Printing Annual Report, Circulars, &c., -	-	-	-	7	17	10
Advertisements, -	-	-	-	7	12	0
Tradesmen's Accounts, -	-	-	-	4	1	0
Stationery, Postages, and Incidental Expenses, -	-	-	-	2	4	2
Balance in Bank, -	-	-	-	42	8	10
						<u>£207 4 6</u>

Greenock, 10th March, 1873.

E. & O. E.

(Signed)

GEO. R. M'DOUGALL, *Treasurer.*

We have examined the foregoing account and compared same with the vouchers, and find it correct, the balance in Bank being Forty-two Pounds Eight Shillings and Tenpence.

(Signed)

FRED. JOHNSTON,  
THOMAS ROBERTSON OGILVIE, } *Auditors.*

## II.—STATEMENT OF PROCEEDINGS.

The Treasurer's Statement for the past year shows at the credit of the Society the sum of £42 8s 10d, the largest balance which the Society has ever possessed at the conclusion of a Session.

There has also been an increase in the Membership, the number on the roll being 192 or 38 more than last year. The number of tickets issued for ladies and youths was 167, being 43 more than were issued during last Session.

The following Lectures and Papers were read during the Session :—

SUBJECTS IN SCIENCE.—“Colour,” by Professor George Forbes, B.A., F.R.S.E. “The Different Modes of Circulation in the Animal and Vegetable Kingdom. “The Different Modes of Respiring in the Animal and Vegetable Kingdoms,” (two lectures), by Dr A. M. Buchanan, A.M. “Corals : their Formation and Distribution,” by Mr James Thomson, F.G.S., C.M.R., S.L. “Thermo-electricity,” by Professor Tait, M.A. “Engineering,” by Mr Walter Robert Kinipple, C.E. “The Principles of the Positive Philosophy,” by Professor John Veitch, M.A. “The Economics of John Ruskin,” by Professor W. B. Hodgson, L.L.D.

IN TRAVEL, HISTORY, AND ART.—“The Finding of Livingstone, by Mr Henry M Stanley. “Recent Explorations in Moab,” (two lectures) by the Rev. Canon Tristram, L.L.D., F.R.S. “Ancient Thebes : its Temples and Tombs,” by the Rev. John Nelson, D.D. “War Songs,” by Professor John Nichol, B.A. “William Carstairs,” by the Rev. R. Herbert Story. “A Recent Visit to some of the Principal Cities of Europe,” by Mr James Miller. “Luxury : its Uses and Abuses,” by Mrs Henry Fawcett.

The material prosperity, before alluded to, is to a considerable extent due to the arrangements which the Society made for having a Lecture from Mr Stanley, the searcher for Dr Livingston. The Lecture, which took place on 26th October last, was delivered in the Town Hall, to an exceptionally large audience.

The Session proper was opened by Professor Forbes, of the Andersonian University, Glasgow. The subject of his paper being “Colour.”

The Watt Lecture, the subject of which was “Thermo-electricity,” was delivered by Professor Tait, of Edinburgh.

Without particularizing other papers, the Committee feel assured that they may safely congratulate themselves and the Society on the conclusion of a Session, which has, in many respects, been an interesting and active one.

Following out the plan of the two previous years, the Committee determined, besides the ordinary Lectures of the Society, to have a Special Course on a given subject, and they were fortunate enough to arrange with Dr John Caird for the delivery of Twelve Lectures on the History of Religions.

The success of these Lectures, which will not be completed till the middle of next month, has been very gratifying, and the Committee feel proud that they have been the means of affording so many, not only of the Members of the Society, but also of the general public, the pleasure of hearing Dr Caird treat exhaustively a subject with which he is so well qualified to deal.

Special thanks are due to Mr Miller, Dr Nelson, and Mr Kinipple, Members of the Society, for the excellent papers contributed by them.

The office-bearers who retire are:—The president, Mr James Miller : Dr Nelson, one of the vice-presidents ; and Messrs T. R. Ogilvie, T. L. Patterson, R. H. Houston, J. G. Alexander, and Donald McDonald, Members of Committee.

Mr Glen, the secretary, also retires on the present occasion. His term of office has not expired, but when re-elected a year ago, he made to be understood, that on account of the number of other demands upon his time, it would be impossible for him to hold office beyond the end of the present Session. The Committee, in accordance with this understanding, have accepted Mr Glen's resignation.

The Committee are glad to say that they have induced Mr G. R. McDougall, the present treasurer, to accept of the office rendered vacant by Mr Glen's retirement. The office of treasurer will therefore fall to be filled up by the Society.

The Committee recommend that Mr James Miller, the retiring president, should be elected an Honorary Member of the Society. Mr Miller, who, the Committee regret is now residing permanently out of town, has, besides reading various papers, taken for many years an active interest in the affairs of the Society.

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#### OFFICE-BEARERS FOR SESSION 1873-74.

*President*—**REY. JOHN NELSON, D.D.**

*Vice-Presidents*—**JOHN C. HUNTER, ESQ. AND GRAHAM BRYMNER, ESQ.**

*Treasurer*—**MR T. R. OGILVIE.**

*Secretary*—**MR G. R. M'DOUGALL.**

#### *Committee.*

Messrs **FREDERICK JOHNSTON.**  
**W. K. OLIPHANT.**  
**SAMUEL STEWART.**  
**DUGALD M'Eachran.**  
**THOMAS PRENTICE.**  
**WM. M'CLURE.**  
**ALEX. SCOTT, JUN.**  
**JOHN KINLOCH.**

Messrs **A. S. MORIES.**  
**JAMES SLATER, JUN., B.A.**  
**JOHN NEILL, JUN.**  
**DR J. K. ROBERTSON.**  
**ROBERT SPIER.**  
**DANIEL RANKIN.**  
**JAMES GLEN.**

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#### HONORARY MEMBERS OF THE SOCIETY.

**Archd. Geikie, F.R.S., F.G.S.**  
**John Shaw.**  
**G. Greville Williams, F.R.S.**  
**Richard Chalmers.**  
**Edward Caird, B.A.**

**James B Stephens.**  
**David Hill.**  
**Cosmo Innes, M.A.**  
**J. Clerk Maxwell, F.R.S. L. & E.**  
**James Miller.**

# ORDINARY MEMBERS, 1872-73.

David Agnew.  
James Aitken.  
Thos. A. Aitken.  
John Allan.  
Robert Allan.  
J. G. Alexander.  
Thomas Anderson.  
William S. Anderson.  
M. Arbuckle.  
K. A. Baird.  
John Barclay.  
P. Ballingall.  
James Barr.  
James Barnard.  
Robert Binnie.  
James W. Black.  
A. J. Black.  
Edward Blackmore.  
Robert Blair.  
Quintin Bone.  
Wm. Boyd.  
Matthew Brown.  
Neil Brown.  
Alex. Brown.  
David Brown.  
John Brymner.  
Graham Brymner.  
Colin S. Caird.  
R. W. Campbell.  
J. H. Carmichael.  
Thomas Carmichael.  
Alexander Crawford.  
Alexander Currie.  
Archibald Currie.  
David Dewar.  
John Douglas.  
T. N. Douglas.  
James Duncan.  
Samuel Duncan.  
M. F. Dunlop.  
D. M. Erskine.  
John Erskine.  
Alex. Ferguson.  
Robert B. Finlay.  
T. P. Finlay.  
A. C. Finlay.  
James Finlay.  
A. H. Finlay.  
A. M. Fleming.  
Charles Fraser.  
Hugh Fullarton.  
D. H. Gibb.  
James Glen.  
Rev. William Gordon.  
John Graham.  
J. J. Grieve, M.P.  
Robert Grieve.  
David Guthrie.  
William Hair.  
Robert Hamilton.  
Matthew Hill.  
Robert Hill.  
G. W. Houston.  
R. H. Houston.

C. P. Hunter.  
John C. Hunter.  
T. O. Hunter.  
John Hyndman.  
David Johnstone.  
Frederick Johnston.  
David Kerr.  
Thomas Kirkwood.  
Thomas Kincaid.  
Thomas King.  
John Kinloch.  
W. B. Kinipple.  
John Laird.  
John Lang.  
C. D. Lamont.  
Wm. Letham.  
William Lamont.  
A. O. Leitch.  
W. O. Leitch.  
William Lindsay.  
Rev. Julius Lloyd.  
John Love.  
Robert Love.  
John Low.  
Abram Lyle, jun.  
Alex. Lyle.  
Wm. Lyle.  
Archd. M'Callum.  
W. M'Clure.  
D. M'Donald.  
Roderick M'Donald.  
D. M'Dougall.  
G. R. M'Dougall.  
D. M'Eachran.  
Robert M'Farlane.  
Robert Macfarlane.  
T. M. Macfarlane.  
John M'Gregor.  
Dugald M'Innes.  
P. M'Kellar.  
Alexander M'Kellar.  
John P. M'Laren.  
J. M'Lay.  
James M'Lean.  
R. S. M'Morland.  
Thomas M'Naught.  
John M'Phail.  
H. S. Main.  
Dr Marshall.  
James Miller.  
A. S. Mories.  
A. C. Morton.  
James Morton.  
Allan Muir.  
David Murray.  
John Neill, jun.  
Robert Neill.  
Stewart Neill.  
Thomas Neill, jun.  
William Neill.  
Rev. John Nelson, D.D.  
Samuel Nicol.  
Thomas Niven.  
William Orr.

T. R. Ogilvie.  
J. B. O'Neill.  
W. K. Oliphant.  
Andrew R. Orr.  
T. L. Patterson.  
R. R. Patterson.  
John Paul.  
W. B. Paul.  
H. T. Patten.  
William Philp.  
John Prentice.  
Thomas Prentice.  
David Rankin.  
John F. Rankin.  
William Rankin.  
George Reiach.  
Archd. Reid.  
Robert Rennie.  
R. Richmond.  
Dr J. K. Robertson.  
John Rodger.  
T. B. Rowan.  
Alexander Scott.  
Alexander Scott, jun.  
J. D. Scott.  
John Scott, jun.  
J. Scott, yst.  
J. E. Scott.  
Robert Shankland.  
George Shanks.  
William Shearer.  
A. Skivington.  
Jas. Slater, jun., B.A.  
A. C. Smith.  
James C. Smith.  
Robert Spier.  
Thomas Stark.  
Robert Steele, jun.  
William Steele.  
James Stewart.  
Samuel Stewart.  
Archibald Sword.  
James Tannahill.  
H. L. Tennent.  
William Thomson.  
John M. Thomson.  
Robert Thorne.  
Thos. M. Thorne.  
John A. Turnbull.  
William Turner.  
James W. Turner.  
James Tweddel.  
Hugh Walker.  
H. W. Walker.  
John Walker.  
Alex. Wilson.  
Edward Wilson.  
William Watt.  
Dr Wilson.  
D. S. Wrede.  
James York.  
Robert Young.  
Walter Yuill.



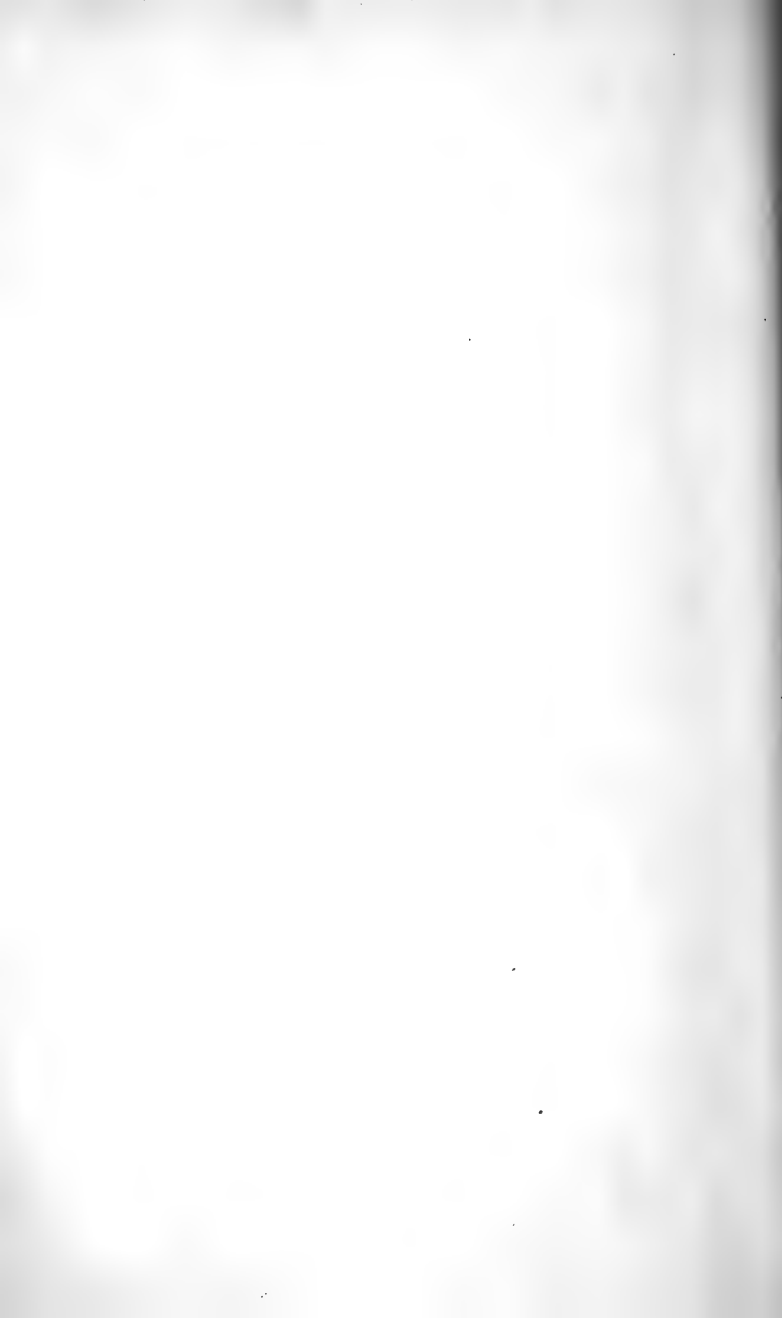


















22 SEP 1938



## FIFTEENTH ANNUAL REPORT

OF THE

## Philosophical Society of Greenock.

Read and Approved at the Meeting of the Society held in the  
Watt Monument on 4th March, 1876—Graham Brymner,  
Esq., President, in the Chair.

## I.—STATEMENT OF ACCOUNTS.

Dr.	
Balance from last Session, . . . . .	£1 14 4
Subscriptions from 175 Members, at 10s 6d, . . . . .	91 17 6
„ for 3 Half-Session Members, at 7s 6d, . . . . .	1 2 6
103 Tickets for Ladies and Youths, at 3s 6d, . . . . .	18 0 6
Interest on Bank Account, . . . . .	0 14 6
	<u>£113 9 4</u>
Cr.	
Rent and Gas paid Greenock Library, . . . . .	£12 0 0
Town Assessments, . . . . .	1 1 5
Officer's Salary, Cleaning, &c., . . . . .	7 8 0
Fees and Expenses for Lecturers, . . . . .	76 15 0
Printing, Advertising, &c., . . . . .	7 17 0
Tradesmen's Accounts, . . . . .	1 1 0
Stationery, &c., . . . . .	1 8 6
Balance in Bank, . . . . .	5 18 5
	<u>£113 9 4</u>

Greenock, 3d March, 1876.

E. E.

(Signed) THOMAS ROBERTSON OGILVIE.

Greenock, 17th March, 1876.—Examined, compared with Vouchers produced,  
and found correct.

(Signed)  
„A. O. LEITCH,  
P. BALLINGALL,

} AUDITORS.

## II.—STATEMENT OF PROCEEDINGS.

The Committee have pleasure in reporting that during the past Session the Society has received a considerable accession to its membership, the number on the roll being 178, against 154 in the previous Session. The number of tickets issued to ladies and youths has been 103, which is a slight increase on last year's numbers. It will also be seen from the Treasurer's report that the Society is in an improved position with respect to funds, the balance on hand being £5 18s 5d as against £1 14s 4d brought from last year. The following Lectures were delivered during the Session :—

**SUBJECTS IN SCIENCE :—**“Clay and Flint in their Economic Aspects in relation to Pottery and Glass,” by Thomas C. Archer, Esq. “The Lower Forms of Plant Life,” by Professor W. C. Williamson, F.R.S., of Owen's College, Manchester. “Navigation,” by Sir William Thomson, LL.D., D.C.L., F.R.S. “The Influence of Diet, Clothing, Exercise, and Ablution upon the Health of the Skin,” by Professor A. M. Buchanan, M.D. “The Perception of Sound and Music,” by Dr John G. M'Kendrick, F.R.S.E. “Contact Electricity and the Theory of the Voltaic Pile,” by J. Thomson Bottomley, Esq., M.A., F.R.S.E.

**GENERAL SUBJECTS.**—“Attention as an Instrument of Self Culture,” by the Honourable Lord Gifford. “The Art of Popular Illustration,” by Henry Blackburn, Esq. “Legislative Interference with Trade Historically Illustrated,” by Professor William B. Hodgson, LL.D. “Science and Art,” by William Denny, Esq. “Arctic Exploration and the Expedition of 1875,” by Dr Robert Brown, F.R.G.S. “The Society of Books,” by Miss Emily Faithfull. “Some Female Writers,” by the President, Graham Brymner, Esq.

The Society has to record its thanks to Lord Gifford for the exceedingly eloquent and appropriate Lecture with which he inaugurated the Session, and to Sir William Thomson—who has always shown the most friendly interest in the Society—for delivering the Watt Anniversary Lecture. Thanks are also due to Mr William Denny for the Lecture he kindly contributed, and to Mr Brymner for the Closing Lecture of the Session. In looking back upon the business of the Fifteenth Session, the Committee think they are justified in saying that in none of its predecessors have the Lectures been more in accordance with the aim and objects of the Society, which are “to promote the study of literature, science, and art.” In nearly every case the Lecturers spoke from special knowledge of their subject, and their success in dealing with the topics they had chosen was such as to be highly gratifying. The Committee hope that many of the Members and others who heard the Lectures would be stimulated thereby to seek a more intimate acquaintance with the subjects upon which they treated, and to follow them up by personal study. In all cases where it was available the aid of illustration was

obtained, and on several occasions numerous and beautiful experiments, involving not only the use of the most costly and elaborate instruments, but the application of skilful manipulation were employed to elucidate the subjects of lecture. This is a means of instruction which commends itself to the Committee, and it will not be lost sight of in future programmes. The attendance during the Session has been most satisfactory, and evinced the interest of the Members in the Lectures. It frequently exceeded the comfortable capacity of the hall, and the Committee believe that when they, next Session, begin to make use of the better accommodation so generously provided by Mr M'Lean, a large increase in the Membership will follow. In the end of September last year it was the pleasing duty of the Committee to take part in the ceremony of laying the memorial stone at the new buildings, and they hope to arrange, in conjunction with the Library Committee, for these being worthily inaugurated about the same time this year.

The Committee have been in correspondence with the Committee of the Glasgow Science Lectures Association, who are kindly co-operating with them in the arrangements they propose to make for next Session, and they hope these will result in the Society having Lectures from most of the distinguished scientific men who come before the Association in Glasgow.

The Office-bearers who retire are :—Mr John Scott, Yst., one of the Vice-Presidents ; Mr T. R. Ogilvie, Treasurer ; Mr George R. M'Dougall, Secretary ; Dr Robertson and Messrs John Neill, Jun., R. Speir, D. Rankin, James Glen, Members of Committee.

#### OFFICE-BEARERS FOR SESSION 1876-77.

*President*—GRAHAM BRYMNER, ESQ.

*Vice-Presidents*—WM. M'CLURE, ESQ., and JOHN NEILL, JUN., ESQ.

*Treasurer*—MR THOMAS ROBERTSON OGILVIE.

*Secretary*—MR GEORGE R. M'DOUGALL.

#### *Committee.*

Rev. J. M. JARVIE.

Messrs E. BLACKMORE.

ROBERT ALLAN.

D. M. ERSKINE.

A. J. BLACK.

W. J. MARSHALL, M.D.

JAMES AITKEN.

Rev. JULIUS LLOYD.

Messrs ROBERT STEELE, JUN.

H. W. WALKER.

JOHN SCOTT.

LOUSON WALKER.

A. C. FINLAY.

W. A. WILSON, M.D.

J. R. BLACK, M.D.

#### HONORARY MEMBERS OF THE SOCIETY.

ARCHD. GEIKIE, F.R.S., F.G.S.

JOHN SHAW.

G. GREVILLE WILLIAMS, F.R.S.

RICHARD CHALMERS.

EDWARD CAIRD, B.A.

JAMES B. STEPHENS.

DAVID HILL.

J. CLERK MAXWELL, F.R.S.

JAMES MILLER.

## ORDINARY MEMBERS, 1875-76.

DAVID AGNEW.  
 JAMES AITKEN.  
 THOMAS A. AITKEN.  
 ROBERT ALLAN.  
 THOMAS ANGUS.  
 M. ARBUCKLE.  
 CHARLES AULD.  
 P. BALLINGALL.  
 JOHN BARCLAY.  
 J. W. BIGGART.  
 ALEXANDER BLACK.  
 A. J. BLACK.  
 GEORGE H. BLACK.  
 JAMES BLACK.  
 JAMES W. BLACK.  
 DR J. R. BLACK.  
 EDWARD BLACKMORE.  
 QUINTIN BONE.  
 ALEXANDER BROWN.  
 HUGH BROWN.  
 JAMES BROWN.  
 MATTHEW BROWN.  
 NEIL BROWN.  
 GRAHAM BRYMNER.  
 JOHN BRYMNER.  
 COLIN S. CAIRD.  
 PATRICK T. CAIRD.  
 J. H. CARMICHAEL.  
 THOMAS CARMICHAEL.  
 R. W. CAMERON.  
 ARCHIBALD COOK.  
 WILLIAM CRAWFORD.  
 ALEXANDER CURRIE.  
 ARCHIBALD CURRIE.  
 JOHN DOUGLAS.  
 T. N. DOUGLAS.  
 JAMES DUNCAN.  
 M. F. DUNLOP.  
 JOHN DUNLOP.  
 D. M. ERSKINE.  
 JOHN ERSKINE.  
 JAMES B. FAIRGRIEVE.  
 ALEXANDER FERGUSON.  
 ROBERT B. FINLAY.  
 T. P. FINLAY.  
 A. C. FINLAY.  
 ROBERT FLEMING.  
 CHARLES FRASER.  
 ALEXANDER GAULD.  
 JAMES GLEN.  
 JAMES GRAHAM.  
 J. J. GRIER.  
 J. J. GRIEVE, M.P.  
 WALTER GRIEVE.  
 WILLIAM HAIR.  
 ROBERT HAMILTON.  
 D. S. HENDRY.  
 ROBERT HENDRY.  
 MATTHEW HILL.

G. W. HOUSTON.  
 R. H. HOUSTON.  
 C. P. HUNTER.  
 J. C. HUNTER.  
 T. O. HUNTER.  
 W. HUTCHISON.  
 JOHN HYNDMAN.  
 REV. J. M. JARVIE.  
 DAVID JOHNSTONE.  
 ROBERT KERR.  
 THOMAS KING.  
 W. R. KINIPPLE.  
 JOHN KINLOCH.  
 JOHN LANG.  
 C. D. LAMONT.  
 WILLIAM LETHAM.  
 A. O. LEITCH.  
 W. O. LEITCH.  
 WILLIAM LINDSAY.  
 REV. JULIUS LLOYD.  
 ROBERT LOVE.  
 ABRAM LYLE.  
 ALEXANDER LYLE.  
 D. MACECHRAN.  
 ROBERT MACFARLANE.  
 T. M. MACFARLANE.  
 J. D. MACGREGOR.  
 PETER MACKAY.  
 DR DONALD MACRAILD.  
 WILLIAM M'COWAN.  
 JAMES L. M'CLURE.  
 WILLIAM M'CLURE.  
 D. M'DONALD.  
 D. M'DOUGALL.  
 G. R. M'DOUGALL.  
 JOHN M'GREGOR.  
 THOMAS M'NABB.  
 JOHN M'PHAIL.  
 JAS. M'LEAN.  
 JOHN M'NAUGHT.  
 DR W. J. MARSHALL.  
 WILLIAM MILLIGAN.  
 A. S. MORIES.  
 JAMES S. MORIES.  
 A. C. MORTON.  
 JAMES MORTON.  
 ALLAN MUIR.  
 JOHN NEILL, JUNR.  
 ROBERT NEILL.  
 STEWART NEILL.  
 THOMAS NEILL, JUNR.  
 WILLIAM NEILL.  
 REV. DR NELSON.  
 JOHN S. NICOL.  
 SAMUEL NICOL.  
 T. R. OGILVIE.  
 J. B. O'NEILL.  
 W. K. OLIPHANT.  
 ANDREW R. ORR.

R. R. PATERSON.  
 ARCHIBALD PATON.  
 DR JAMES PATON.  
 H. T. PATTEN.  
 JOHN PAUL.  
 W. B. PAUL.  
 WILLIAM PHILP.  
 JOHN PRENTICE.  
 GILBERT RAMSAY.  
 DANIEL RANKIN.  
 JOHN F. RANKIN.  
 WILLIAM RANKIN.  
 GEORGE REIACH.  
 REV. J. B. ROBERTSON.  
 DR J. K. ROBERTSON.  
 JOHN RODGER.  
 T. B. ROWAN.  
 ALEXANDER RUSSELL.  
 ALEXANDER SCOTT.  
 ALEX. SCOTT, JUNR.  
 J. D. SCOTT.  
 JOHN SCOTT, JUNR.  
 J. SCOTT, YST.  
 J. E. SCOTT.  
 ROBERT SHANKLAND.  
 R. B. SHEARER.  
 WILLIAM SHEARER.  
 A. SKIVINGTON.  
 J. SLATER, JUNR., B.A.  
 J. C. SMITH.  
 SHERIFF SMITH.  
 ROBERT SPEIR.  
 ROBERT STEELE, JUNR.  
 WILLIAM STEELE.  
 ALLAN SWAN.  
 ALLAN SWAN, JUNR.  
 ALEXANDER B. SWAN.  
 ARCHIBALD SWORD.  
 JAMES TANNAHILL.  
 WILLIAM TAYLOR.  
 JOHN THOMSON.  
 WILLIAM THOMSON.  
 W. W. THOMSON.  
 THOMAS M. THORNE.  
 JOHN A. TURNBULL.  
 JAMES W. TURNER.  
 WILLIAM TURNER.  
 JAMES TWEDDEL.  
 HUGH R. WALKER.  
 HUGH W. WALKER.  
 LOUSON WALKER.  
 UTRICK WALTON.  
 D. WARDROP.  
 WILLIAM WATT.  
 ALEXANDER WILSON.  
 DR WM. A. WILSON.  
 JAMES YORK.  
 ROBERT L. YOUNGER.  
 WALTER YUILL.

# SIXTEENTH ANNUAL REPORT

OF THE

## Philosophical Society of Greenock.

Read and Approved at the Meeting of the Society held in the  
Watt Monument on 2d March, 1877—Graham Brymner,  
Esq., President, in the Chair.

### I.—STATEMENT OF ACCOUNTS.

#### Dr.

Balance from last Session,	-	-	-	-	-	-	-	-	£5 18 5
Subscriptions from 232 Members, at 10s 6d,	-	-	-	-	-	-	-	-	121 16 0
166 Tickets for Ladies and Youths, at 3s 6d,	-	-	-	-	-	-	-	-	29 1 0
Interest on Bank Account,	-	-	-	-	-	-	-	-	0 14 4
									<u>£157 9 9</u>

#### Cr.

Museum Committee,	-	-	-	-	-	-	-	-	£10 0 0
Town Assessments,	-	-	-	-	-	-	-	-	1 3 8
Officer's Salary, &c.,	-	-	-	-	-	-	-	-	8 14 9
Fees and Expenses for Lectures,	-	-	-	-	-	-	-	-	114 0 2
Printing and Advertising,	-	-	-	-	-	-	-	-	12 11 0
Stationery, Postages, Telegrams, &c.,	-	-	-	-	-	-	-	-	3 11 5
Balance in Bank,	-	-	-	-	-	-	-	-	7 8 9
									<u>£157 9 9</u>

Greenock, 14th March, 1877.

E. and O. E.

(Signed) THOMAS ROBERTSON OGILVIE.

Examined, compared with Vouchers, and found correct.

(Signed)	A. CAMPBELL FINLAY,	} AUDITORS.
„	J. ROBERT BLACK, M.D.	

## II.—STATEMENT OF PROCEEDINGS.

In presenting their Sixteenth Annual Report, the Committee have much satisfaction in congratulating the Members on the continued increase in the prosperity of the Society. As a proof of this they need only call attention to the fact that the number of Members on the roll, which was last Session 178, and in the previous one 154, is now 232, while the number of tickets issued to ladies and youths is 166, as against 103 last year. The increase in the resources of the Society enabled the Committee to expend £111 14s 7d on fees and other expenses for lectures, being £34 19s 7d more than was spent in this way last Session. The following are the lectures delivered during the Session:—

**SUBJECTS IN SCIENCE.**—"Comets and Meteors," by Mr R. A. Proctor, B.A., F.R.S.; "The Story of the Isles of the Sea, as told by the Fowls of the Air," by Canon Tristram, LL.D., F.R.S.; "The Steam Engine of the Future," by Mr J. Scott Russell, M.A., F.R.S.; "Kent's Cavern; its Testimony to the Antiquity of Man," by Mr William Pengelly, F.R.S., F.G.S.; "On Musical Sensations," by Professor J. G. M'Kendrick, M.D., F.R.S.E.

**GENERAL SUBJECTS.**—"The Romans in Scotland," by Mr James Donaldson, LL.D.; "The Life and Writings of Adam Smith," by Professor W. B. Hodgson, LL.D.; "Old Greece and Modern Life," by Professor R. C. Jebb, M.A.; "Chopin and Liszt as Pianist and Piano-forte Composers," by Mr Edward Dannreuther; "A Voyage towards the Practicable North Pole," by Commander Cheyne, R.N., F.R.G.S.; "The English Drama," by the Rev. Julius Lloyd, M.A.; "Dante: a Biography and an Exposition," by the Rev. John Barclay.

The Session was inaugurated by a conversazione given by the Museum Committee, to whom the Society is indebted for the opportunity they afforded its Members of being present at one of the most interesting and successful gatherings ever held in Greenock. On that occasion the Members had the gratification of seeing, for the first time, the beautiful and commodious hall which had been provided for their meetings, and which subsequent experience has proved to be admirably adapted for its purpose. In a former report the Society expressed its gratitude to Mr M'Lean, and at the same time indulged in the hope that he might have the happiness of seeing the new buildings completed and applied to the uses for which they were erected. That that hope has not been more fully realised every Member of the Society must deeply regret. By the death of Mr M'Lean, the Society has lost one who always took a warm interest in its welfare, and finally testified his approval of its objects by providing fitting accommodation for its meetings, and his confidence in those who control its affairs, by giving them a joint management over the Museum and Hall. His memory will always be held in affectionate remembrance by the Society. In reference to the lectures of the past Session, the Committee regard the crowded and attentive audiences as the best testimony they could have to their interest. The Committee acted in concert with the Glasgow Science Lectures Association, but, of their six lecturers, only two—Mr Proctor and Mr Pengelly—were able to come to Greenock. It appeared to the Committee that a lecture on

the works of some of the musical composers, with specimens of a few of their compositions, would justly come within the scope of the purposes of the Society, and they consequently made arrangements with Mr Dannreuther for a lecture on Chopin and Liszt, with pianoforte illustrations. The result was such as to lead them to believe that they will carry out the wishes of the Members if they arrange for a lecture of this kind in each Session. As usual, the Watt anniversary lecture was made a special feature, and the Committee were fortunate in obtaining the services of Mr J. Scott Russell, whose name is a representative one in the annals of steam navigation, and in the practical application of Watt's inventions. To the Rev. Mr Lloyd and the Rev. Mr Barclay, two of its Members, the Society is indebted for the excellent lectures which they delivered. In terms of the deed of constitution for the management of the Museum and Hall, the Members of the Society met on 6th October, and elected Messrs Graham Brymner, James Aitken, John Scott, G. R. McDougall, T. R. Ogilvie, and John Neill, junr., as the six representatives from the Society to the Committee of Management of these buildings. The Office-bearers who retire are:—Mr Graham Brymner, President; Mr William McClure, one of the Vice-Presidents; and the Rev. J. M. Jarvie, and Messrs E. Blackmore, Robert Allan, D. M. Erskine, and A. J. Black, Members of Committee.

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#### OFFICE-BEARERS FOR SESSION 1877-78.

*President*—JOHN NEILL, JR., ESQ.  
*Vice-Presidents*—Rev. J. M. JARVIE and W. A. WILSON, M.D.  
*Treasurer*—DUNCAN M'CALLUM.  
*Secretary*—Mr GEORGE R. M'DOUGALL.

#### *Committee.*

Messrs W. J. MARSHALL, M.D.  
 JAMES AITKEN.  
 Rev. JULIUS LLOYD.  
 Messrs ROBERT STEELE, Junr.  
 H. W. WALKER.  
 JOHN SCOTT.  
 LOUSON WALKER.  
 A. C. FINLAY.

Messrs T. R. OGILVIE.  
 J. R. BLACK, M.D.  
 JOHN ERSKINE.  
 JOHN STEWART.  
 JAS. WALLACE, M.D.  
 JOHN LOVE.  
 JOHN BRYMNER.

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#### HONORARY MEMBERS OF THE SOCIETY.

ARCHD. GEIKIE, F.R.S., F.G.S.  
 JOHN SHAW.  
 G. GREVILLE WILLIAMS, F.R.S.  
 RICHARD CHALMERS.  
 EDWARD CAIRD, B.A.

JAMES B. STEPHENS.  
 DAVID HILL.  
 J. CLERK MAXWELL, F.R.S.  
 JAMES MILLER.

## ORDINARY MEMBERS, 1876-77.

GEORGE ADAM.  
 DAVID AGNEW.  
 JAMES AITKEN.  
 THOS. A. AITKEN.  
 W. ALEXANDER, M.D.  
 JAMES ALEXANDER.  
 ROBERT ALLAN.  
 THOMAS ANDERSON.  
 THOMAS ANGUS.  
 M. ARBUCKLE.  
 J. W. ARMIT.  
 CHARLES AULD.  
 WILLIAM AULD.  
 P. BALLINGALL.  
 JOHN BARCLAY.  
 REV. JOHN BARCLAY.  
 ALEX. BLACK.  
 GEORGE H. BLACK.  
 JAMES BLACK.  
 JAMES W. BLACK.  
 J. R. BLACK, M.D.  
 A. J. BLACK.  
 EDWARD BLACKMORE.  
 QUINTIN BONE.  
 THOS. W. E. BONE.  
 JAMES BONE.  
 JAMES BROWN, JUNR.  
 NEIL BROWN.  
 ALEXANDER BROWN.  
 HUGH BROWN.  
 JOHN BRYMNER.  
 GRAHAM BRYMNER.  
 WM. L. BRUNTON.  
 COLIN S. CAIRD.  
 PATRICK T. CAIRD.  
 J. F. CAMPBELL.  
 J. H. CARMICHAEL.  
 THOMAS CARMICHAEL.  
 R. W. CAMERON.  
 REV. H. P. CHARLTON.  
 ARCHIBALD COOK.  
 EDWIN R. COUCHMAN.  
 WILLIAM CRAWFORD.  
 ALEX. CURRIE.  
 ARCHIBALD CURRIE.  
 C. H. CURTIS.  
 JOHN DOUGLAS.  
 T. N. DOUGLAS.  
 JAMES DUNCAN.  
 SAMUEL DUNCAN.  
 M. F. DUNLOP.  
 JOHN DUNLOP.  
 D. M. ERSKINE.  
 JOHN ERSKINE.  
 JAS. A. FAIRGRIEVE.  
 ALEX. FERGUSON.  
 ROBERT B. FINLAY.  
 T. P. FINLAY.  
 A. C. FINLAY.  
 ROBERT FLEMING.  
 CHARLES FRASER.  
 ALLAN GALLOWAY, M.D.  
 ALEXANDER GAULD.  
 WILLIAM GIBSON.  
 A. M. GILCHRIST.  
 JAMES GLEN.  
 JAMES GORDON.  
 ALEX. GRAHAM.  
 JAMES GRAHAM.  
 J. J. GRIER.  
 J. J. GRIEVE, M.P.  
 WALTER GRIEVE.  
 ROBERT GRIEVE.  
 WILLIAM HAIR.  
 ROBERT HAMILTON.  
 ALEX. N. HARVIE.  
 — HARVIE.

DUNCAN S. HENDRY.  
 JOHN HENRY.  
 JAMES M. HILL.  
 MATTHEW HILL.  
 J. W. HOUSTON.  
 R. H. HOUSTON.  
 J. C. HUNTER.  
 T. O. HUNTER.  
 J. M. HUTCHESON.  
 W. HUTCHISON.  
 JOHN HYNDMAN.  
 JOSEPH HYNDMAN.  
 JOHN JACK.  
 REV. J. M. JARVIE.  
 DAVID JOHNSTON.  
 ROBERT KERR.  
 WILLIAM KIDD.  
 THOMAS KING.  
 JOHN KINLOCH.  
 W. R. KINIPPLE.  
 C. D. LAMONT.  
 JOHN LANG.  
 WILLIAM LETHAM.  
 A. O. LEITCH.  
 W. O. LEITCH.  
 WILLIAM LINDSAY.  
 JOHN LIVINGSTONE.  
 REV. JULIUS LLOYD.  
 JOHN LOVE.  
 ROBERT LOVE.  
 ABRAM LYLE.  
 ALEXANDER LYLE.  
 JAMES LYLE.  
 JOHN M'ARTHUR.  
 WILLIAM M'ARTHUR.  
 ARCHIBALD MacCALLUM.  
 D. P. MacCALLUM.  
 DUNCAN M'CALLUM.  
 COLIN M'CUCCLOCH.  
 JAMES MacCUNN.  
 JAMES L. M'CLURE.  
 WILLIAM M'CLURE.  
 D. M'DONALD.  
 D. M'DOUGALL.  
 G. R. M'DOUGALL.  
 D. MACEACHRAN.  
 ROBT. MACFARLANE.  
 T. M. MACFARLANE.  
 J. D. MACGREGOR.  
 PETER MACKAY.  
 EDWARD MACKAY.  
 NEIL M'INTOSH.  
 THOMAS M'KEAN.  
 WM. M'KECHNIE, M.D.  
 DAVID M'KELVIE.  
 JOHN M'KIVER.  
 JAMES M'LEAN.  
 THOMAS M'NABB.  
 JOHN M'NAUGHT.  
 JOHN M'PHAIL.  
 DONALD M'RAILD, M.D.  
 W. J. MARSHALL, M.D.  
 ROBERT MASON.  
 JAMES MATHIESON.  
 WILLIAM MILLIGAN.  
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 JAS. S. MORIES.  
 GEORGE MORRISON.  
 JAMES MORRISON.  
 A. C. MORTON.  
 JAMES MORTON.  
 JAMES MORTON, JUNR.  
 ROBERT MORTON.  
 ALLAN MUIR.  
 RICHARD MUIR.  
 ROBERT MUIR.  
 GEO. D. NEILL.  
 JOHN NEILL, JUNR.

ROBERT NEILL.  
 STEWART NEILL.  
 THOMAS NEILL, JUNR.  
 WILLIAM NEILL.  
 REV. JOHN NELSON, D.D.  
 JOHN S. NICOL.  
 T. R. OGILVIE.  
 W. K. OLIPHANT.  
 ANDREW R. ORR.  
 JAMES ORR.  
 T. B. O'NEILL.  
 ARCHIBALD PATON.  
 JAMES PATON, M.B.  
 R. R. PATERSON.  
 JOHN PAUL.  
 W. B. PAUL.  
 WILLIAM PHILP.  
 JOHN PRENTICE.  
 GILBERT RAMSAY.  
 DANIEL RANKIN.  
 JOHN F. RANKIN.  
 WILLIAM RANKIN.  
 GEORGE REIACH.  
 REV. J. B. ROBERTSON.  
 J. K. ROBERTSON, M.D.  
 JOHN RODGER.  
 T. B. ROWAN.  
 ANDREW RUSSELL.  
 ALEX. RUSSELL.  
 ALEX. SCOTT.  
 ALEX. SCOTT, JR.  
 J. D. SCOTT.  
 J. E. SCOTT.  
 JOHN SCOTT, JUNR.  
 JOHN SCOTT.  
 ROBT. SHANKLAND.  
 R. B. SHEARER.  
 WILLIAM SHEARER.  
 A. SKIVINGTON.  
 JAMES SLATER, JR., B.A.  
 ALEX. SMITH.  
 HARRY SMITH.  
 JAS. C. SMITH.  
 THOMAS STARK.  
 ROBERT STEELE, JUNR.  
 WILLIAM STEELE.  
 ANDREW STEWART.  
 JAMES STEWART.  
 JOHN STEWART.  
 SAMUEL STEWART.  
 ALLAN SWAN.  
 ALEX. B. SWAN.  
 ARCHIBALD SWORD.  
 JAMES TANNAHILL.  
 WILLIAM TAYLOR.  
 JOHN M. THOMSON.  
 WILLIAM THOMSON.  
 W. W. THOMSON.  
 THOS. M. THORNE.  
 ALEX. J. TURNBULL.  
 JAMES W. TURNER.  
 WILLIAM TURNER.  
 JAMES TWEDDEL.  
 HUGH WALKER.  
 HUGH W. WALKER.  
 JOHN WALKER.  
 LOUSON WALKER.  
 JAMES WALLACE, M.D.  
 UTRICK WALTON.  
 WILLIAM WATT.  
 ALEXANDER WILSON.  
 DOUGLAS J. WILSON.  
 GEORGE WILSON.  
 WM. A. WILSON, M.D.  
 ROBERT WRIGHT.  
 JAMES YORK.  
 ROBERT L. YOUNGER.  
 WALTER YUILL.



# SEVENTEENTH ANNUAL REPORT

OF THE

## Greenock Philosophical Society.

Read and Approved at the Meeting of the Society held in the Watt Institution, on 4th March, 1878—John Neill, Junr., Esq., President, in the Chair.

### I.—STATEMENT OF ACCOUNTS.

DR.

Balance from last Session, - - - - -	£7 8 9
Members' Tickets, 234, at 10s 6d, - - - - -	122 17 0
Ladies' and Youths' Tickets, 197 at 3s 6d, - - - - -	34 9 6
Bank Interest, - - - - -	1 4 7
	<u>£165 19 10</u>

CR.

Fees and Expenses for Lectures, - - - - -	£112 4 0
Museum Committee, - - - - -	10 0 0
Printing and Advertising, - - - - -	19 7 6
Stationery, Postages, Telegrams, &c., - - - - -	2 7 0
Officer's Salary, Collecting, and Deliveries, - - - - -	7 2 0
Sum voted to Purchase Scientific Books, - - - - -	10 0 0
Balance in Bank, - - - - -	4 19 4
	<u>£165 19 10</u>

Greenock, 1st March, 1878.

DUNCAN M'CALLUM, Hon. Treasurer.

Examined, compared with Vouchers, and found correct.

(Signed) A. CAMPBELL FINLAY, } AUDITORS.  
 „ J. ROBERT BLACK, M.D., }

### II.—STATEMENT OF PROCEEDINGS.

The Committee have pleasure in being able to report that the large accession to the Membership of the Society in 1876-77 has been fully maintained in the past Session—the number of Members at present on the roll being 234, and the number of tickets issued to ladies and youths being 197. The following are the lectures delivered during the Session:—

SUBJECTS IN SCIENCE.—“*The Telephone*,” by Professor Graham Bell; “*The Characters of Chemical Attraction*,” by T. R. Ogilvie, Esq., F.C.S.; “*The Polarization of Light*,” by Wm. Spottiswoode, LL.D., F.R.S.; “*The Conduction of Heat*,” by P. G. Tait, M.A., D.Sc.

GENERAL SUBJECTS.—“*The Study of History*,” by Professor Edward Caird; “*Impurities in Raw Sugar*,” by John Neill, Junr., Esq., M.A.; “*Early Russian History*,” by W. R. S. Ralston, Esq.; “*Health in Great Cities and Towns*,” by B. W. Richardson, M.D., F.R.S.; “*King Lear and the Tragic Drama*,” by the Rev. Alex. Ritchie, B.D.; “*Coleridge, Wordsworth, and Southey*,” by the Rev. J. M. Jarvie; “*The Rebellion of 1745*,” by Francis William Clark, LL.D.; “*Evolution in Relation to the Argument from Design in Nature*,” by W. J. Marshall, M.D.; “*Erasmus and Sir Thomas More*,” by Principal Tulloch, D.D. In addition to these lectures, there was a pianoforte recital by Mr Walter Bache, of London.

The Session was opened by Professor Edward Caird, who on very short notice took the place of Sheriff Clark, that gentleman being unavoidably prevented from addressing the Society till later on. As on former occasions, the Committee had the benefit of the co-operation of the Glasgow Science Lectures Association, and Professor Graham Bell, Dr Benjamin W. Richardson, and Dr Spottiswoode, addressed the Society on the night after their lectures to the Association. It afforded the Committee much satisfaction to be able to make arrangements whereby the Society heard from Professor Bell the history of the investigations and experiments which ultimately led to his producing the wonderful instrument which has been described by Sir Wm. Thomson as “one of the most interesting of the scientific inventions made in this century, or that has been made in the history of science.” The Watt anniversary lecture was delivered by Professor P. G. Tait, of Edinburgh, whose distinction as an investigator and discoverer, in those branches of science in which Watt took an interest, is well known.

It is always an object with the Committee to enlist the services of some of the Members as lecturers, and during the past Session they were fortunate in getting the President, Mr John Neill, Junr., and also Mr T. R. Ogilvie, the Rev. J. M. Jarvie, and Dr Marshall, to take a place in the Society’s programme. The lectures delivered by these gentlemen were on subjects with which they were highly qualified to deal, and were most interesting and instructive.

In one of the recent Annual Reports the Committee had to refer to the death of the Society’s first President, the late Sheriff Tennent. It is again their painful duty to refer to the loss the Society has sustained through the death of another of its past Presidents—viz., the Rev. Dr Nelson. While Dr Nelson was in office, nothing could exceed the attention he gave to the work of the Society; and during his whole connexion with it the interest he evinced in its affairs was of the warmest and most practical kind. Whenever he thought the results of his historical or other studies or his notes of foreign travel could be put into the form of a lecture that would prove interesting to the Society, he willingly placed his services at the disposal of the Committee, and it was his intention, had health permitted, to have addressed the Society during the Session now ended.

Early in the Session the Committee appointed three of their number—viz., Dr Wilson, Dr Black, and Mr T. R. Ogilvie, to report

as to what might be done by the Society towards beginning the formation of a special collection of such scientific books of reference as would add to the usefulness of the Museum, and be of assistance to those who wish to study its contents. The gentlemen named presented a report a short time ago, and the Committee have made a grant of £10 from the funds of the Society for the purpose referred to. The Committee will be glad if some of the Members will take an interest in this matter, and supplement the small grant which has been made by their contributions.

Mr T. R. Ogilvie, who for four years had been a most efficient Treasurer, having resigned, the Committee elected Mr Duncan M'Callum to the vacant office.

At a special statutory meeting of the Members held on the last Monday of December, Mr Graham Brymner and Mr Jas. F. Campbell were elected Members of the Museum Committee in room of the two retiring Members.

The Society's Office-bearers who retire are the Rev. J. M. Jarvie, one of the Vice-Presidents; and Messrs Robert Steele, Junr., H. W. Walker, James Aitken, Rev. Julius Lloyd, and Dr Marshall, Members of Committee. Mr Jarvie having been elected at last annual meeting to fill Mr Neill's unexpired term as a Vice-President, is now eligible for re-election.

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### OFFICE-BEARERS FOR SESSION 1878-79.

*President*—JOHN NEILL, JR., ESQ.  
*Vice-Presidents*—W. A. WILSON, M.D., and Rev. J. M. JARVIE.  
*Treasurer*—DUNCAN M'CALLUM.  
*Secretary*—Mr GEORGE R. M'DOUGALL.

#### *Committee.*

Messrs JOHN SCOTT.  
 LOUSON WALKER.  
 A. C. FINLAY.  
 T. R. OGILVIE.  
 J. R. BLACK, M.D.  
 JOHN ERSKINE.  
 JOHN STEWART.  
 JAS. WALLACE, M.D.

Messrs JOHN LOVE.  
 JOHN BRYMNER.  
 J. D. SCOTT.  
 JOHN RODGER.  
 JAMES SLATER, JR., B.A.  
 JOHN S. NICOL.  
 Rev. J. B. ROBERTSON.

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### SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.

Messrs JOHN SCOTT.  
 G. R. M'DOUGALL.  
 JOHN NEILL, JR.

Messrs T. R. OGILVIE.  
 GRAHAM BRYMNER.  
 JAS. F. CAMPBELL.

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### HONORARY MEMBERS OF THE SOCIETY.

ARCHD. GEIKIE, F.R.S., F.G.S.  
 JOHN SHAW.  
 G. GREVILLE WILLIAMS, F.R.S.  
 RICHARD CHALMERS.  
 EDWARD CAIRD, B.A.

JAMES B. STEPHENS.  
 DAVID HILL.  
 J. CLERK MAXWELL, F.R.S.  
 JAMES MILLER.

## ORDINARY MEMBERS, 1877-78.

GEORGE ADAM.  
 DAVID AGNEW.  
 JOHN AGNEW.  
 JAMES AITKEN.  
 JAMES ALEXANDER.  
 ROBERT ALLAN.  
 THOMAS ANGUS.  
 M. ARBUCKLE.  
 J. W. ARMIT.  
 FRANK ASHWELL.  
 WILLIAM AULD.  
 P. BALLINGALL.  
 JOHN BARCLAY.  
 REV. JOHN BARCLAY.  
 ALEX. BLACK.  
 GEORGE H. BLACK.  
 JAMES BLACK.  
 JAMES W. BLACK.  
 J. R. BLACK, M.D.  
 A. J. BLACK.  
 EDWARD BLACKMORE.  
 QUINTIN BONE.  
 THOS. W. E. BONE.  
 JAMES BONE.  
 JAMES BROWN, JUNR.  
 NEIL BROWN.  
 ALEXANDER BROWN.  
 HUGH BROWN.  
 JOHN BRYMNER.  
 GRAHAM BRYMNER.  
 WM. L. BRUNTON.  
 COLIN S. CAIRD.  
 PATRICK T. CAIRD.  
 DUGALD CAMPBELL.  
 J. F. CAMPBELL.  
 ANDREW CARMICHAEL.  
 J. H. CARMICHAEL.  
 THOMAS CARMICHAEL.  
 R. W. CAMERON.  
 ALFRED J. G. CHALMERS.  
 REV. H. P. CHARLTON.  
 ARCHIBALD COOK.  
 EDWIN R. COUCHMAN.  
 WILLIAM CRAWFORD.  
 ALEX. CURRIE.  
 C. H. CURTIS.  
 JOHN DOUGLAS.  
 T. N. DOUGLAS.  
 JAMES DUNCAN.  
 SAMUEL DUNCAN.  
 M. F. DUNLOP.  
 JOHN DUNLOP.  
 D. M. ERSKINE.  
 JOHN ERSKINE.  
 JAS. A. FAIRGRIEVE.  
 ALEX. FERGUSON.  
 ROBERT B. FINLAY.  
 T. P. FINLAY.  
 A. C. FINLAY.  
 R. F. FISHER.  
 ROBERT FLEMING.  
 CHARLES FRASER.  
 WILLIAM GIBSON.  
 A. M. GILCHRIST.  
 JAMES GLEN.  
 JAMES GORDON.  
 ALEX. GRAHAM.  
 JAMES GRAHAM.  
 J. J. GRIER.  
 J. J. GRIEVE, Ex-M.P.  
 WALTER GRIEVE.  
 ROBERT GRIEVE.  
 WILLIAM HAIR.  
 ROBERT HAMILTON.  
 ALEX. N. HARVIE.  
 F. E. HARVIE.  
 DUNCAN S. HENDRY.  
 JOHN HENRY.

JAMES M. HILL.  
 MATTHEW HILL.  
 G. W. HOUSTON.  
 R. H. HOUSTON.  
 ROBERT HOUSTON.  
 J. C. HUNTER.  
 WILLIAM HUNTER.  
 J. M. HUTCHESON.  
 W. HUTCHISON.  
 JOHN HYNDMAN.  
 JOHN JACK.  
 REV. J. M. JARVIE.  
 ROBERT KERR.  
 REV. JAMES KERR.  
 WILLIAM KELSO.  
 WILLIAM KIDD.  
 THOMAS KING.  
 JOHN KINLOCH.  
 W. R. KINIPPLE.  
 C. D. LAMONT.  
 JOHN LANG.  
 WILLIAM LETHAM.  
 A. O. LEITCH.  
 W. O. LEITCH.  
 WILLIAM LINDSAY.  
 JOHN LIVINGSTONE.  
 REV. JULIUS LLOYD.  
 JOHN LOVE.  
 ROBERT LOVE.  
 JOHN LUSK, JUNR.  
 ABRAM LYLE.  
 ALEXANDER P. LYLE.  
 JAMES LYLE.  
 CHARLES LYLE.  
 WILLIAM M'ARTHUR.  
 ARCHIBALD MACCALLUM.  
 D. P. MACCALLUM.  
 DUNCAN M'CALLUM.  
 COLIN M'CULLOCH.  
 JAMES MACCUNN.  
 JAMES L. M'CLURE.  
 WILLIAM M'CLURE.  
 RODERICK MACDONALD.  
 D. M'DONALD.  
 D. M'DOUGALL.  
 G. R. M'DOUGALL.  
 D. MACEACHRAN.  
 ROBT. MACFARLANE.  
 T. M. MACFARLANE.  
 J. D. MACGREGOR.  
 PETER MACKAY.  
 EDWARD MACKAY.  
 NEIL M'INTOSH.  
 THOMAS M'KEAN.  
 WM. M'KECHNIE, M.D.  
 DAVID M'KELVIE.  
 PETER M'KELLAR.  
 JOHN M'KIVER.  
 JAMES M'LEAN.  
 JOHN M'NAUGHT.  
 JOHN M'PHAIL.  
 W. J. MARSHALL, M.D.  
 ROBERT MASON.  
 JAMES MOLLISON.  
 WILLIAM MILLIGAN.  
 A. S. MORIES.  
 JAMES MORRISON.  
 A. C. MORTON.  
 JAMES MORTON.  
 JAMES MORTON, JUNR.  
 ALLAN MUIR.  
 RICHARD MUIR.  
 ROBERT MUIR.  
 GEO. D. NEILL.  
 JOHN NEILL, JUNR.  
 ROBERT NEILL.  
 STEWART NEILL.  
 THOMAS NEILL, JUNR.

WILLIAM NEILL.  
 WILLIAM NEILL.  
 JOHN S. NICOL.  
 T. R. OGILVIE.  
 W. K. OLIPHANT.  
 R. D. OLIPHANT.  
 GEORGE ORD.  
 T. B. O'NEILL.  
 ARCHIBALD PATON.  
 JAMES PATON, M.B.  
 R. R. PATERSON.  
 JOHN PAUL.  
 W. B. PAUL.  
 WILLIAM PHILP.  
 JOHN PRENTICE.  
 GILBERT RAMSAY.  
 DANIEL RANKIN.  
 JOHN F. RANKIN.  
 WILLIAM RANKIN.  
 GEORGE REIACH.  
 ROBERT RENNIE.  
 REV. J. B. ROBERTSON.  
 J. K. ROBERTSON, M.D.  
 JOHN RODGER.  
 W. W. B. RODGER.  
 T. B. ROWAN.  
 JAMES ROUVIE.  
 ALEX. RUSSELL.  
 ALEX. SCOTT.  
 ALEX. SCOTT, JUNR.  
 J. D. SCOTT.  
 J. E. SCOTT.  
 JOHN SCOTT, JUNR.  
 JOHN SCOTT.  
 ROBT. SHANKLAND.  
 ALEX. SHEARER.  
 R. B. SHEARER.  
 WILLIAM SHEARER.  
 A. SKIVINGTON.  
 JAMES SLATER, JR., B.A.  
 ALEX. SMITH.  
 HARRY SMITH.  
 JAS. C. SMITH.  
 THOMAS STARK.  
 THOMAS STARK, JUNR.  
 ROBERT STEELE, JUNR.  
 WILLIAM STEELE.  
 ANDREW STEWART.  
 JAMES K. STEWART.  
 JOHN STEWART.  
 SAMUEL STEWART.  
 ALLAN SWAN.  
 ARCHIBALD SWORD.  
 JAMES TANNAHILL.  
 WILLIAM TAYLOR.  
 WILLIAM THOMSON.  
 W. W. THOMSON.  
 THOS. M. THORNE.  
 GEORGE TODD.  
 ALEX. J. TURNBULL.  
 JAMES W. TURNER.  
 WILLIAM TURNER.  
 JAMES TWEDDEL.  
 ALEX. WALKER.  
 HUGH WALKER.  
 HUGH W. WALKER.  
 JOHN WALKER.  
 LOUSON WALKER.  
 JAMES WALLACE, M.D.  
 UTRICK WALTON.  
 WILLIAM WATT.  
 ALEXANDER WILSON.  
 GEORGE WILSON.  
 WM. A. WILSON, M.D.  
 ROBERT WRIGHT.  
 JAMES YORK.  
 ROBERT L. YOUNGER.  
 WALTER YUILL.



# EIGHTEENTH ANNUAL REPORT

## OF THE

# Greenock Philosophical Society.

Read and Approved at the Meeting of the Society held in the  
Watt Institution, on 14th March, 1879—John Neill, Esq.,  
President, in the Chair.

### I.—STATEMENT OF ACCOUNTS.

#### DR.

Balance from last Session, . . . . .	£4 19 4
Members' Tickets, 212 at 10s 6d, . . . . .	111 6 0
Ladies' and Youths' Tickets, 176 at 3s 6d, . . . . .	31 3 0
Bank Interest, . . . . .	0 3 4
Balance of Vote made last Session for Scientific Books, . . . . .	0 12 5
Balance due Treasurer, . . . . .	4 15 4
	<u>£152 19 5</u>

#### CR.

Fees and Expenses for Lectures, . . . . .	116 5 0
Museum Committee, . . . . .	10 0 0
Printing and Advertising, . . . . .	15 5 6
Stationery, Postages, Telegrams, &c., . . . . .	1 11 8
Officer's Salary, Collecting, and Deliveries, . . . . .	6 3 3
Lecture Table, . . . . .	3 14 0
	<u>152 19 5</u>

Greenock, 14th March, 1879.

DUNCAN M'CALLUM, HON. TREASURER.

Examined, compared with Vouchers, and found correct.

(Signed)      JOHN RODGER,  
                     A. CAMPBELL FINLAY, } AUDITORS.

### II.—STATEMENT OF PROCEEDINGS.

As will be found reported in the Treasurer's statement, the number of Members on the roll for the present Session is 212, and the number of tickets issued to ladies and youths is 176. These figures show a falling off from the previous year. The Treasurer's statement also shows a balance of £4 15s 4d against the Society. The following lectures were delivered during the Session:—

SUBJECTS IN SCIENCE.—“*Corals and Coral Reefs*,” by Dr Andrew Wilson; “*The Science of Wealth*,” (four lectures) by Professor Hodgson,

LL.D.; "*The Unity of Plan and Evidence of Design in the Animal Kingdom, with comparison of the Facts of Natural History with the Hypothesis of Darwinism*," and "*Mammals, from the Marsupials to the Gorilla, as contrasted with Man*," (two lectures) by Mr B. Waterhouse Hawkins, F.L.S.; "*Mechanical Equivalents*," by Professor Fleeming Jenkin, F.R.S.; "*Some of the Lower Forms of Animal Life*," by Dr Wm. A. Wilson; "*Light and Spectrum Analysis*," and "*Voltaic energy and Electric Light*," (two lectures) by Mr Henry A. Severn.

GENERAL SUBJECTS.—"*The Tasmanians, an extinct Race of Men*," by Professor Flower, LL.D., F.R.S.; "*The Greenock Harbour Works*," by Mr W. R. Kinipple, M.Inst.C.E.; "*Scotland in the days of Queen Anne*," by Professor Stoughton, D.D.

In addition to the foregoing lectures "*a Pianoforte Recital, with comments*," was given by Mr Edward Dannreuther, of London. It should also be noted that in the interval between the present and the previous sessions, the Members had the opportunity of hearing a lecture on "*Visible Speech and Lip Reading*," which was given under the auspices of the Society by Professor Graham Bell, the inventor of the Telephone.

In some past Sessions courses of lectures on special subjects have been given under the auspices of the Society, but these were independent of the ordinary programme, and were charged for separately. The Committee thought that it would be advantageous if in the present Session a special series could be made to form part of the ordinary programme, and after full consideration they selected "Economic Science" as the subject for such a series, and made arrangements with Professor W. B. Hodgson for the delivery of four lectures, the first being on the requisites of production—"Natural Agents, Labour, Capital;" the second on "Competition;" the third on "Combination," and the last on "Co-operation." These four lectures could not, of course, exhaust the extremely important topics on which they treated, but it is the hope of the Committee that, in the words of the Lecturer, they gave "so much of insight and interest as may stimulate and guide to more complete and systematic study hereafter."

The large audiences that were present at these four lectures, and the evident interest with which they were listened to, encourage the Committee to believe that the course they adopted was a wise one, and that they will be warranted in arranging for the delivery of a series of four or more lectures, on one branch of science or literature, in next Session.

The Watt Anniversary lecture was delivered by Mr Fleeming Jenkin, F.R.S., Professor of Engineering in the University of Edinburgh.

The warmest thanks of the Society are due to Dr Wilson and Mr Kinipple for the highly interesting and instructive lectures which they delivered.

With the grant of £10 which was made at the end of last Session for the purchase of scientific books of reference, the following works were purchased:—Bell's British Quadrupeds, 1 vol.; Yarrell's British Fishes, 2 vols.; Morris's British Birds, 8 vols.; Forbes' British Starfishes, 1 vol.; Newman's British Butterflies and Moths, 1 vol.; Spry & Shuckard's British Coleoptera, 1 vol. These works are now in the Museum, and

are available to all who wish to consult them. The Committee have learned with great satisfaction that they are constantly being referred to by persons interested in Natural History studies. Had the funds of the Society permitted another grant would have been made this year.

At the statutory meeting in December the vacancies which occurred in the Society's representatives in the Museum Committee were filled up by the election of Mr John Stewart, and the re-election of Mr G. R. M'Dougall. At the same meeting one of the members suggested the formation of a section of the Society for the reading and discussion of original papers, and subsequently a special meeting was called for the purpose of enabling any members who were interested to form such a section, but the attendance at this meeting was so small that no further steps were taken. The Committee will be glad to encourage the formation of such sections for special studies.

The Office-bearers who retire are Mr John Neill, President; Dr Wilson, one of the Vice-Presidents; Mr G. R. M'Dougall, Secretary, and Messrs John Scott, Louison Walker, A. C. Finlay, T. R. Ogilvie, and Dr Black, members of Committee. With the exception of the Secretary these are all ineligible for re-election for one year. The Secretary having served for two terms now wishes to withdraw from office.

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### OFFICE-BEARERS FOR SESSION 1879-80.

*President*—Rev. J. M. JARVIE.

*Vice-Presidents*—JAMES WALLACE, M.D., and GEO. R. M'DOUGALL.

*Treasurer*—DUNCAN M'CALLUM.

*Secretary*—JOHN RODGER.

#### *Committee.*

Messrs JOHN ERSKINE.  
JOHN STEWART.  
JOHN LOVE.  
JOHN BRYMNER.  
J. D. SCOTT.  
JAMES SLATER, JR., B.A.  
JOHN S. NICOL.  
ALEX. P. LYLE.

Messrs THOMAS NEILL.  
DONALD M'DONALD.  
WM. A. WILSON, M.D.  
ROBERT MUIR.  
THOS. CARMICHAEL.  
WILLIAM TAYLOR.  
JAMES MACCUNN.

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### SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.

Messrs JOHN NEILL.  
T. R. OGILVIE.  
GRAHAM BRYMNER.

Messrs JAS. F. CAMPBELL.  
JOHN STEWART.  
GEO. R. M'DOUGALL.

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### HONORARY MEMBERS OF THE SOCIETY.

ARCHD. GEIKIE, F.R.S., F.G.S.  
JOHN SHAW.  
G. GREVILLE WILLIAMS, F.R.S.  
RICHARD CHALMERS.  
EDWARD CAIRD, B.A.

JAMES B. STEPHENS.  
DAVID HILL.  
J. CLERK MAXWELL, F.R.S.  
JAMES MILLER.

## ORDINARY MEMBERS, 1878-79.

GEORGE ADAM  
 R. G. ADAM  
 A. L. ADAM  
 JOHN AGNEW  
 JAMES AITKEN  
 ALFRED H. ALCHIN  
 ROBERT ALLAN  
 WILLIAM ALGIE  
 M. ARBUCKLE  
 J. N. ARMIT  
 FRANK ASHWELL  
 WILLIAM AULD  
 P. BALLINGALL  
 JOHN BARCLAY  
 GEORGE H. BLACK  
 JAMES BLACK  
 JAMES W. BLACK  
 J. R. BLACK, M.D.  
 A. J. BLACK  
 EDWARD BLACKMORE  
 QUINTIN BONE  
 THOS. W. E. BONE  
 JAMES BONE  
 THOS. BORTHWICK  
 JAMES BROWN, JUNR.  
 NEIL BROWN  
 HUGH BROWN  
 JOHN BRYMNER  
 GRAHAM BRYMNER  
 COLIN S. CAIRD  
 PATRICK T. CAIRD  
 DUGALD CAMPBELL  
 J. F. CAMPBELL  
 ANDREW CARMICHAEL  
 J. H. CARMICHAEL  
 THOMAS CARMICHAEL  
 ALFRED J. G. CHALMERS  
 REV. H. P. CHARLTON  
 ARCHIBALD COOK  
 WILLIAM COOK  
 EDWIN R. COUCHMAN  
 WILLIAM CRAWFORD  
 ALEX. CURRIE  
 C. H. CURTIS  
 JOHN DOUGLAS  
 T. N. DOUGLAS  
 JAMES DUNCAN  
 M. F. DUNLOP  
 JOHN DUNLOP  
 JOHN DUFF  
 D. M. ERSKINE  
 JOHN ERSKINE  
 ALEX. FERGUSON  
 ROBERT B. FINLAY  
 T. P. FINLAY  
 A. C. FINLAY  
 R. F. FISHER  
 ROBERT FLEMING  
 CHARLES FRASER  
 HUGH FULLARTON  
 A. M. GILCHRIST  
 JAMES GLEN  
 JAMES GRAHAM  
 J. J. GRIER  
 WALTER GRIEVE  
 ROBERT GRIEVE  
 WILLIAM HAIR  
 ROBERT HAMILTON  
 ALEX. N. HARVIE  
 F. E. HARVEY  
 DUNCAN S. HENDRY

JOHN HENRY  
 JAMES M. HILL  
 MATTHEW HILL  
 G. W. HOUSTON  
 R. H. HOUSTON  
 ROBERT HOUSTON  
 J. C. HUNTER  
 WILLIAM HUNTER  
 J. M. HUTCHESON  
 W. HUTCHISON  
 JOHN HYNDMAN  
 JOHN JACK  
 REV. J. M. JARVIE  
 T. H. JONES  
 ROBERT KERR  
 WILLIAM KELSO  
 WILLIAM KIDD  
 THOMAS KING  
 JOHN KINLOCH  
 W. R. KINIPPLE  
 WILLIAM LETHAM  
 A. O. LEITCH  
 WILLIAM LINDSAY  
 JOHN LIVINGSTONE  
 JOHN LOVE  
 ROBERT LOVE  
 JOHN LUSK, JUNR.  
 ABRAM LYLE  
 ALEXANDER P. LYLE  
 JAMES LYLE  
 WILLIAM M'ARTHUR  
 ARCHIBALD MACCALLUM  
 DUNCAN M'CALLUM  
 COLIN MACCULLOCH  
 JAMES MACCUNN  
 JAMES L. M'CLURE  
 WILLIAM M'CLURE  
 RODERICK MACDONALD  
 D. M'DONALD  
 D. M'DOUGALL  
 G. R. M'DOUGALL  
 D. MACEACHRAN  
 ROBT. MACFARLANE  
 T. M. MACFARLANE  
 J. D. MACGREGOR  
 PETER MACKAY  
 JAMES M'GAVAN  
 EDWARD MACKAY  
 NEIL M'INTOSH  
 THOMAS M'KEAN  
 WM. M'KECHNIE, M.D.  
 ALEX. S. M'LEAN  
 JOHN MACNEILLAGE  
 JOHN M'NAUGHT  
 JOHN M'PHAIL  
 HUGH MAIN  
 W. J. MARSHALL, M.D.  
 ROBERT MASON  
 WILLIAM MILLIGAN  
 A. S. MORIES  
 A. C. MORTON  
 JAMES MORTON  
 JAMES MORTON, JUNR.  
 ROBERT MUIR  
 GEO. D. NEILL  
 JOHN NEILL  
 ROBERT NEILL  
 STEWART NEILL  
 THOMAS NEILL  
 WILLIAM JAS. NEILL

WILLIAM NEILL  
 JOHN S. NICOL  
 T. R. OGILVIE  
 W. K. OLIPHANT  
 R. D. OLIPHANT  
 T. B. O'NEILL  
 ARCHIBALD PATON  
 JAMES PATON, M.E.  
 R. R. PATERSON  
 JOHN PAUL  
 W. B. PAUL  
 CHARLES PENNELL  
 WILLIAM PHILP  
 JOHN PRENTICE  
 GILBERT RAMSAY  
 DANIEL RANKIN  
 JOHN F. RANKIN  
 WILLIAM RANKIN  
 GEORGE REIACH  
 ROBERT RENNIE  
 J. K. ROBERTSON, M.D.  
 JOHN RODGER  
 W. W. B. RODGER  
 JOHN ROWAN  
 T. B. ROWAN  
 JAMES ROUVIE  
 ALEX. RUSSELL  
 ALEX. SCOTT  
 ALEX. SCOTT, JUNR.  
 J. D. SCOTT  
 JOHN SCOTT, JUNR.  
 JOHN SCOTT  
 ROBT. SHANKLAND  
 ALEX. SHEARER  
 R. B. SHEARER  
 WILLIAM SHEARER  
 A. SKIVINGTON  
 JAMES SLATER, JR., B.A.  
 ALEX. SMITH  
 HARRY SMITH  
 JAS. C. SMITH  
 THOMAS STARK  
 ROBERT STEELE, JUNR.  
 WILLIAM STEELE  
 ANDREW STEWART  
 JAMES F. STEWART  
 JOHN STEWART  
 SAMUEL STEWART  
 ALLAN SWAN  
 WILLIAM TAYLOR  
 WILLIAM THOMSON  
 W. W. THOMSON  
 THOS. M. THORNE  
 ALEX. J. TURNBULL  
 JAMES W. TURNER  
 WILLIAM TURNER  
 ALEX. WALKER  
 HUGH WALKER  
 HUGH W. WALKER  
 JOHN WALKER  
 LOUSON WALKER  
 JAMES WALLACE, M.D.  
 UTRICK WALTON  
 WILLIAM WAIT  
 ALEXANDER WILSON  
 WM. A. WILSON, M.D.  
 ROBERT WRIGHT  
 JAMES YORK  
 ROBERT L. YOUNGER  
 WALTER YUILL



# NINETEENTH ANNUAL REPORT

## OF THE

# Greenock Philosophical Society.

Read and Approved at the Meeting of the Society held in the  
Watt Institution, on 6th March, 1880—The Rev. Mr Jarvie,  
President, in the Chair.

### I.—STATEMENT OF ACCOUNTS.

DR.	
Member's Tickets, 213 at 10s 6d, . . . . .	£111 16 6
Ladies' and Youths' Tickets, 221 at 3s 6d, . . . . .	38 13 6
Bank Interest, . . . . .	0 3 2
	£150 13 2

CR.	
Fees and Expenses for Lectures, . . . . .	£105 18 2
Museum Committee, . . . . .	10 0 0
Printing and Advertising, . . . . .	11 9 0
Officer's Salary, Collecting, and Deliveries, . . . . .	6 10 10
Stationery, Postages, Telegrams, &c., . . . . .	2 2 11
Balance due Treasurer from last Session, . . . . .	4 15 4
Balance in Treasurer's hands, . . . . .	9 16 11
	£150 13 2

Greenock, 5th March, 1880.

DUNCAN M'CALLUM, HON. TREASURER.

Examined, compared with Vouchers, and found correct.

(Signed)      A. CAMPBELL FINLAY, }  
                  "      JOHN S. NICOL,        } AUDITORS.

### II.—STATEMENT OF PROCEEDINGS.

The Committee have pleasure in being able to report that the Membership of the Society has been fairly maintained during the past Session, the number of Members on the roll being 213, and the number of tickets issued to ladies and youths being 220.

As will be observed, the finances are also in a satisfactory state, the Treasurer's accounts showing a balance to the credit of the Society of £9 16s 11d. The following is a statement of the lectures delivered during the Session:—

SUBJECTS IN SCIENCE.—The General Physiology of the Nervous System (four lectures), by John G. M'Kendrick, M.D., F.R.S.E., Professor of Physiology in the University of Glasgow. Lecture I.—*"Nerves and Nerve Centres."* Lecture II.—*"The Spinal Cord."*

Lecture III.—“*The Brain.*” Lecture IV.—“*Sensory Impressions.*” “*The Sun and the Earth viewed as Engines,*” by Balfour Stewart, LL.D., F.R.S., Professor of Natural Philosophy, Owen’s College, Manchester. “*Insects and Flowers; their Mutual Relations*” (Illustrated by Diagrams), by Andrew Wilson, Ph.D., F.R.P.S.E., Lecturer on Zoology and Comparative Anatomy, Edinburgh Medical School. “*A Dance of Molecules*” (Illustrated by Crooke’s Brilliant Experiments on Radiant Matter), by George Forbes, M.A., F.R.S.E., Professor of Natural Philosophy in the Andersonian University, Glasgow.

GENERAL SUBJECTS.—Introductory Lecture—“*Transcendentalism,*” by the Honourable Lord Gifford. “*The Roman Forum,*” by Rev. Hugh Macmillan, D.D., LL.D. “*The Suliotes; Episodes in the History of Modern Greece,*” by James Donaldson, LL.D., Rector of Edinburgh High School. “*The Mediæval Monasteries of Scotland,*” by Rev. J. C. Lees, D.D., Edinburgh. “*Curiosities of English Etymology,*” by the Rev. J. M. M’Culloch, D.D., Greenock. “*Improved Dwellings for the Poor*” (with Diagrams), by Graham Brymner, Esq.

In addition to these lectures, there were readings from English and American authors by Mr and Miss Dietz, and a Pianoforte Recital by Herr Pauer, both of which were attended by large audiences.

Following the example of previous Sessions, and with a view of making the studies of the Society somewhat more systematic, the Committee arranged with Professor M’Kendrick to deliver a series of four lectures.

The subject selected by the Professor for these lectures was, as already stated, “*Nerves and Nerve Centres,*” and their success was such as to confirm the Committee in the belief that a short series of lectures should, if possible, be given each year on one subject.

The Watt Anniversary Lecture was delivered by Professor Balfour Stewart, of Owen’s College, Manchester.

The Society desires to record its high appreciation of the kindness of Lord Gifford in again favouring it with a lecture, and in coming from Edinburgh, at great personal inconvenience, to open the nineteenth Session with a very eloquent and instructive lecture on “*Transcendentalism.*” The warmest thanks of the Society are due to Dr Macmillan who, on very short notice, undertook to deliver his lecture on “*The Roman Forum.*” When the programme of the second half of the past Session appeared, the Members of the Society would doubtless notice with gratification that the venerable and respected pastor of the West Parish Church would again, and for the third time, lecture to the Society. Unfortunately, the health of Dr M’Culloch was such as to preclude him from delivering the lecture in person, but the Committee are happy to know that the results of the studies of some of the maturer years of the Reverend Doctor were listened to with much pleasure and profit, interpreted as they so ably were by the President. The Society is also much indebted to Graham Brymner, Esq., for the very interesting and instructive lecture with which he brought the Session to a close. The Committee regret that the state of the funds will not permit of any grant being made this year for the purchase of scientific books of reference.

The Committee are glad to report that a small Committee of their number have been appointed to prepare a synopsis of the proceedings of the Society for the first twenty years of its existence, with a view to its being printed and circulated among the Members at the close of next Session.

It will be observed that while the Membership of the Society is 213, being one more than last year, the tickets issued to ladies and youths are 221, being 44 more than last year. The Committee think it right, when calling attention to this slight increase in the Membership and the large increase in the tickets issued to ladies and youths, to remind the Society that its original intention was to issue ladies' and youths' tickets only with the Members tickets and to the families of Members.

At the statutory meeting in December the vacancies which occurred in the Society's representatives in the Museum Committee were filled up by the election of Mr J. D. Scott and Dr Wilson. The Office-Bearers who retire are Dr Wallace, one of the Vice-Presidents; Mr Duncan M'Callum, the Treasurer; and Messrs John Erskine, John Stewart, John Love, John Brymner, and J. D. Scott, all of whom are ineligible for re-election, except the Treasurer and Dr Wallace, who was elected to fill the place of Mr Jarvie, whose term of office as Vice-President had not expired.

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#### OFFICE-BEARERS FOR SESSION 1880-81.

*President*—Rev. J. M. JARVIE.

*Vice-Presidents*—GEORGE R. M'DOUGALL and JAMES WALLACE, M.D.

*Treasurer*—DUNCAN M'CALLUM.

*Secretary*—JOHN RODGER.

#### *Committee.*

Messrs JAMES SLATER, JR., B.A.  
JOHN S. NICOL.  
ALEX. P. LYLE.  
THOMAS NEILL.  
DONALD M'DONALD.  
WM. A. WILSON, M.D.  
ROBERT MUIR.  
THOMAS CARMICHAEL.

Messrs WILLIAM TAYLOR.  
JAMES MACCUNN.  
G. D. NEILL.  
COLIN MACCULLOCH.  
G. H. BLACK.  
THOMAS M'KEAN.  
WILLIAM MILLIGAN.

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#### SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.

Messrs GRAHAM BRYMNER.  
JOHN SCOTT.  
JOHN STEWART.

Messrs GEORGE R. M'DOUGALL.  
J. D. SCOTT.  
Dr WILSON.

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#### HONORARY MEMBERS OF THE SOCIETY.

ARCHD. GEIKIE, F.R.S., F.G.S.  
JOHN SHAW.  
G. GREVILLE WILLIAMS, F.R.S.  
RICHARD CHALMERS.

EDWARD CAIRD, B.A.  
JAMES B. STEPHENS.  
DAVID HILL.  
JAMES MILLER.

## ORDINARY MEMBERS 1879-80.

GEORGE ADAM  
 R. G. ADAM  
 DAVID AGNEW  
 JAMES AITKEN  
 ROBERT ALLAN  
 WILLIAM ALGIE  
 M. ARBUCKLE  
 J. N. ARMIT  
 WILLIAM AULD  
 R. A. BAIRD  
 P. BALLINGALL  
 JOHN BARCLAY  
 GEORGE H. BLACK  
 JAMES BLACK  
 JAMES W. BLACK  
 A. J. BLACK  
 EDWARD BLACKMORE  
 ROBERT BLAIR  
 DONALD BROWN  
 JOHN BRYCE  
 QUINTIN BONE  
 THOS. W. E. BONE  
 JAMES BONE  
 THOS. BORTHWICK  
 JAMES BROWN, JUNR.  
 NEIL BROWN  
 HUGH BROWN  
 JOHN BRYMNER  
 GRAHAM BRYMNER  
 COLIN S. CAIRD  
 PATRICK T. CAIRD  
 J. T. CAIRD  
 WILLIAM CAIRD  
 DUGALD CAMPBELL  
 ANDREW CARMICHAEL  
 J. H. CARMICHAEL  
 THOMAS CARMICHAEL  
 MALCOLM CARMICHAEL  
 ARCHIBALD COOK  
 WILLIAM COOK  
 EDWIN R. COUCHMAN  
 WILLIAM CRAWFORD  
 ALEX. CURRIE  
 C. H. CURTIS  
 JOHN DOUGLAS  
 T. N. DOUGLAS  
 JAMES DUNCAN  
 M. F. DUNLOP  
 JOHN DUNLOP  
 JOHN DUFF  
 D. M. ERSKINE  
 JOHN ERSKINE  
 ALEX. FERGUSON  
 ROBERT B. FINLAY  
 T. P. FINLAY  
 A. C. FINLAY  
 R. F. FISHER  
 ROBERT FLEMING  
 CHARLES FRASER  
 HUGH FULLARTON  
 REV. THOMAS FOWLER  
 JAMES GLEN  
 JAMES GRAHAM  
 WALTER GRIEVE  
 ROBERT GRIEVE  
 WILLIAM HAIR  
 ROBERT HAMILTON  
 ALEX. N. HARVIE  
 F. E. HARVEY  
 DUNCAN S. HENDRY  
 JOHN HENDRY  
 JAMES M. HILL

MATTHEW HILL  
 G. W. HOUSTON  
 R. H. HOUSTON  
 ROBERT HOUSTON  
 J. C. HUNTER  
 WILLIAM HUNTER  
 J. M. HUTCHESON  
 W. HUTCHISON  
 JOHN HYNDMAN  
 JOHN JACK  
 REV. J. M. JARVIE  
 T. H. JONES  
 REV. F. L. JOHNSTON  
 ROBERT KERR  
 DAVID KERR  
 WILLIAM KELSO  
 THOMAS KING  
 JOHN KINLOCH  
 W. R. KINIPPLE  
 WILLIAM LETHAM  
 A. O. LEITCH  
 H. LAIRD  
 HUGH LAIRD  
 REV. J. LLOYD  
 JAMES LITTLE  
 JOHN LOVE  
 JOHN LUSK, JUNR.  
 ABRAM LYLE  
 ALEXANDER P. LYLE  
 JAMES LYLE  
 WILLIAM M'ARTHUR  
 ARCHIBALD MacCALLUM  
 DUNCAN M'CALLUM  
 COLIN MacCULLOCH  
 JAMES MacCUNN  
 WILLIAM M'CLURE  
 RODERICK MacDONALD  
 D. M'DONALD  
 D. M'DOUGALL  
 G. R. M'DOUGALL  
 D. MacEACHRAN  
 ROBT. MACFARLANE  
 T. M. MACFARLANE  
 JAMES M'IVER  
 GEORGE MacDONALD  
 ROBERT MORTON  
 J. D. M'INTYRE  
 PETER MACKAY  
 EDWARD MACKAY  
 NEIL M'INTOSH  
 THOMAS M'KEAN  
 ALEX. S. M'LEAN  
 JOHN MACNEILAGE  
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 ROBERT MASON  
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 JAMES MORTON, JUNR.  
 ROBERT MUIR  
 GEORGE D. NEILL  
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 ROBERT NEILL  
 STEWART NEILL  
 THOMAS NEILL  
 WILLIAM JAS. NEILL  
 WILLIAM NEILL

JOHN S. NICOL  
 T. R. OGILVIE  
 W. K. OLIPHANT  
 R. D. OLIPHANT  
 T. B. O'NEILL  
 W. U. PARK  
 ARCHIBALD PATON  
 JAMES PATON, M.B.  
 R. R. PATERSON  
 T. L. PATERSON  
 JOHN PAUL  
 W. B. PAUL  
 WILLIAM PHILP  
 JOHN PRENTICE  
 THOMAS PRENTICE  
 GILBERT RAMSAY  
 DANIEL RANKIN  
 JOHN F. RANKIN  
 WILLIAM RANKIN  
 WILLIAM RANKIN  
 GEORGE REIACH  
 ROBERT RENNIE  
 J. K. ROBERTSON, M.D.  
 JOHN RODGER  
 W. W. B. RODGER  
 JOHN ROWAN  
 T. B. ROWAN  
 JAMES ROUGVIE  
 ALEX. RUSSELL  
 E. SANDEMAN  
 ALEX. SCOTT  
 ALEX. SCOTT, JUNR.  
 J. D. SCOTT  
 JOHN SCOTT, JUNR.  
 JOHN SCOTT  
 ROBT. SHANKLAND  
 ALEX. SHEARER  
 R. B. SHEARER  
 WILLIAM SHEARER  
 A. SKIVINGTON  
 JAMES SLATER, JR., B.A.  
 ALEX. SMITH  
 HARRY SMITH  
 JAS. C. SMITH  
 WILLIAM SPEIRS  
 THOMAS STARK  
 ROBERT STEELE, JUNR.  
 WILLIAM STEELE  
 ANDREW STEWART  
 JAMES K. STEWART  
 JOHN STEWART  
 SAMUEL STEWART  
 ALLAN SWAN  
 WILLIAM TAYLOR  
 THOS. M. THORNE  
 ALEX. J. TURNBULL  
 JAMES W. TURNER  
 ALEX. WALKER  
 HUGH WALKER  
 HUGH W. WALKER  
 JOHN WALKER  
 LOUSON WALKER  
 JAMES WALLACE, M.D.  
 UTRICK WALTON  
 WILLIAM WATT  
 ALEXANDER WILSON  
 WM. A. WILSON, M.D.  
 ROBERT WRIGHT  
 JAMES YORK  
 ROBERT L. YOUNGER  
 WALTER YUILL













# TWENTY-FIRST ANNUAL REPORT

OF THE

## Greenock Philosophical Society.

Read and approved at the Meeting of the Society held in the Watt Institution, on 3rd March, 1882—Dr. Wilson, the President, in the Chair.

### I.—Statement of Accounts.

DR.		
To 198 Members' Tickets, at 10/6,	. . . . .	£103 19 0
" 216 Ladies' and Youths' Tickets, at 3/6,	. . . . .	37 16 0
" Bank Interest,	. . . . .	1 10 10
" Balance from last Session,	. . . . .	36 6 8
		<u>£179 12 6</u>
CR.		
By Fees and Expenses of Lectures,	. . . . .	£92 5 4
" Museum Committee,	. . . . .	10 0 0
" Printing and Advertising, Stationery, &c.,	. . . . .	19 11 2
" Officer's Salary, Collecting, Deliveries, &c.,	. . . . .	6 19 0
" Tin Case, Chemicals, &c.,	. . . . .	2 2 9
" Prize for Essay,	. . . . .	5 5 0
" Balance in Treasurer's hands,	. . . . .	43 9 3
		<u>£179 12 6</u>

Greenock, 3rd March, 1882.

DUNCAN M'CALLUM, *Hon. Treasurer.*

Examined, compared with Vouchers, and found correct.

(Signed) R. MUIR, } *Auditors.*  
 " DUGALD MACEachRAN, }

## III.—Statement of Proceedings.



**I**N presenting the Twenty-first Annual Report, the Committee regret that the Members show a slight decrease as compared with last year, the number of Members being 198, against 214 last year, and the Ladies' and Youths' Tickets 216, against 265. The attendance at the Lectures, however, showed no falling off, and the interest of the Members in the Lectures exhibited no sign of abatement. The Members of the Society can be congratulated on the finances, there being a balance of £43 9s 3d to carry forward to next year's account.

The following is a list of the Lectures delivered during the past Session :—

**Subjects in Science.**—“*Electricity as a Lighting and Power-transmitting Agent*,” by And. Jamieson, C.E., Principal, College of Science and Arts, Glasgow. Illustrated with numerous experiments and diagrams. “*The Storage of Energy*” (with experimental illustrations), by Professor James Blyth, M.A., F.R.S.E. “*The Constitution of the Sun, its Spots and Prominences*” (illustrated by diagrams), by Wm. Miller, Esq., S.S.C., Edinburgh. In honour of the Birthday of James Watt (19th January), “*On the Speed and Carrying of Screw Steamers*” (illustrated by diagrams), by Wm. Denny, Esq., Shipbuilder, Dumbarton.

**In Belles-Lettres.**—“*The Science of Language*” (Four Lectures), by Alexander Roberts, D.D., Professor of Humanity in the United College of St. Salvator and St. Leonards, St. Andrews. First Lecture—“*The Scientific Study of Language*,” Second Lecture—“*The Origin of Language*,” Third Lecture—“*Families of Language*,” Fourth Lecture—“*Indo-European Languages*.” “*The Life of Shakespeare, as Read in his Plays*” (with illustrative readings), by George Walter Baynham, Free Church College, Glasgow. “*Burke*,” by John MacCunn, Esq., Greenock. “*Thomas Carlyle: a Portrait, with an Estimate of his Life-work*,” by Rev. Wm. Howie Wylie, Helensburgh. Two Musical Lectures were also delivered, namely, “*The History of Drawing-room Music*,” by Herr Pauer, Principal Professor of the Pianoforte National Training School, South Kensington; and “*The Musical Condition of Great Britain*,” by J. Spencer Curwen, Esq., London. A Lecture was also delivered during the Second Half of the Course, Subject—“*The Great Survey of Western Palestine*,” by the Rev. James King, M.A., St. Mary Vicarage, Berwick-on-Tweed.

The hearty thanks of the Society are due to Mr. William Denny, of Dumbarton, who delivered a most interesting and scientific lecture in honour of the birthday of James Watt, the subject being, “On the Speed and Carrying of Screw Steamers.” The Committee are so impressed with the value of this lecture, and the honour conferred on the Society by the delivery of it before the Members, that they have decided to print it, and it will be issued to the Members in a few days.

The thanks of the Society are also due in an especial manner to Professor MacCunn, Liverpool, not only for his most eloquent lecture on “Burke,” but for his very liberal offer of a Prize of £5 5s for the best Essay on the subject of “A comparison between Free Trade, Reciprocity, and Protection, as methods of promoting national well-being.” Three Essays were sent in, and Professor MacCunn has now awarded the Prize to that having the motto, “Pro Rege et Patria” attached. On

examination, the Committee find that the writer of the successful Essay is Mr. Nicol F. Cameron, 30 Bruce Street, and the Prize will accordingly be handed to him.

Considerable progress has now been made with the compilation of the Synopsis of the proceedings of the Society for the past twenty years, and it will shortly be in a state to be laid before the Members.

At the statutory meeting in December the vacancies which occurred in the Society's representatives to the Museum Committee were filled up by the election of Mr. Dugald MacEachran and Mr. Jno. Stewart.

The Office-bearers who retire at this time are Dr. Wallace, one of the Vice-Presidents, and Messrs R. Muir, Thos. Carmichael, William Taylor, James MacCunn, and G. D. Neill, all of whom are ineligible for election.

## OFFICE-BEARERS FOR SESSION 1882-83.

*President*—W. A. WILSON, M.D.

*Vice-Presidents*—DONALD MACDONALD, and EDWARD BLACKMORE.

*Treasurer*—DUNCAN M'CALLUM.

*Secretary*—JOHN RODGER.

### *Committee.*

Messrs COLIN MACCULLOCH.  
G. H. BLACK.  
THOMAS M'KEAN.  
WILLIAM MILLIGAN.  
M. F. DUNLOP.  
ROBERT WRIGHT.  
EDWARD SANDEMAN.  
T. L. PATTERSON.

Messrs JAMES BONE.  
J. K. STEWART.  
JNO. DUFF.  
R. W. KINIPPLE.  
JNO. ERSKINE.  
A. S. MORIES.  
Dr. WALLACE.

### *SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.*

Messrs J. D. SCOTT.  
DR. WILSON.  
GRAHAM BRYMNER.

Messrs DR. WALLACE.  
JOHN STEWART.  
D. M'Eachran.

### *HONORARY MEMBERS OF THE SOCIETY.*

ARCHD. GEIKIE, F.R.S., F.G.S.  
JOHN SHAW.  
G. GREVILLE WILLIAMS, F.R.S.  
RICHARD CHALMERS.

EDWARD CAIRD, B.A.  
JAMES B. STEPHENS.  
DAVID HILL.  
JAMES MILLER.

## MEMBERS FOR 1881-82.

DAVID AGNEW  
 JAMES AITKEN  
 ROBERT ALLAN  
 WILLIAM AULD  
 P. BALLINGALL  
 A. R. BAIRD  
 JOHN BARCLAY  
 GEORGE H. BLACK  
 JAMES BLACK  
 JAMES W. BLACK  
 A. J. BLACK  
 EDWARD BLACKMORE  
 JAMES BONE  
 QUINTIN BONE  
 THOS. W. E. BONE  
 THOS. BORTHWICK  
 JAMES BROWN, JUN.  
 J. D. BROWN  
 NEIL BROWN  
 R. S. BROWN  
 T. BROWN  
 JAS. BROWN, JUN.  
 T. S. BROWN  
 JOHN BRYCE  
 GRAHAM BRYMNER  
 JOHN BRYMNER  
 COLIN S. CAIRD  
 J. T. CAIRD  
 PATRICK T. CAIRD  
 WILLIAM CAIRD  
 WILLIAM CAIRD  
 DUGALD CAMPBELL  
 ANDREW CARMICHAEL  
 J. H. CARMICHAEL  
 THOMAS CARMICHAEL  
 R. D. CARMICHAEL  
 ARCHIBALD COOK  
 ROBERT COOK  
 Mr. COLLODEN  
 P. S. CUNNINGHAM  
 ALEX. CURRIE  
 C. H. CURTIS  
 R. DAVIE  
 JOHN DOUGLAS  
 T. N. DOUGLAS  
 JOHN DUFF  
 JAMES DUNCAN  
 M. F. DUNLOP  
 JOHN DUNLOP  
 JOHN ERSKINE  
 ALEX. FERGUSON  
 A. C. FINLAY  
 T. P. FINLAY  
 R. F. FISHER  
 ROBERT FLEMING  
 A. M. FLEMING  
 HUGH FULLARTON  
 J. P. FYFE  
 J. P. FYFE  
 JAMES GLEN  
 JAMES GRAHAM  
 ROBERT GRIEVE  
 WILLIAM HAIR  
 ROBERT HAMILTON  
 ALEX. N. HARVIE  
 F. E. HARVEY  
 DUNCAN S. HENDRY  
 JOHN HENDRY  
 JAMES M. HILL

G. W. HOUSTON  
 R. H. HOUSTON  
 J. C. HUNTER  
 J. M. HUTCHESON  
 W. HUTCHISON  
 JOHN HYNDMAN  
 G. W. JAFFREY  
 CAPTAIN JAMIESON  
 REV. J. M. JARVIE  
 REV. F. L. JOHNSTONE  
 ROBERT KERR  
 THOMAS KING  
 JOHN KINLOCH  
 W. R. KINIPPLE  
 WILLIAM LETHAM  
 A. O. LEITCH  
 JOHN LIVINGSTONE  
 JOHN LOVE  
 ABRAM LYLE  
 ALEXANDER P. LYLE  
 JAMES LYLE  
 WILLIAM M'ARTHUR  
 DR. M'AULAY  
 DUNCAN M'CALLUM  
 WILLIAM M'CLURE  
 WILLIAM M'CLURE, JUN.  
 COLIN MacCULLOCH  
 JAMES MacCUNN  
 GEORGE MacDONALD  
 D. M'DONALD  
 D. M'DOUGALL  
 G. R. M'DOUGALL  
 D. MacEACHRAN  
 ROBT. MACFARLANE  
 T. M. MACFARLANE  
 T. M. MACFARLANE  
 J. M'GREGOR  
 J. D. M'INTYRE  
 JAMES M'IVER  
 EDWARD M'KAY  
 PETER MACKAY  
 EDWIN M'KAY  
 A. M'KELLAR  
 P. M'KELLAR  
 W. M'LARTY  
 ALEX. S. M'LEAN  
 JOHN M'PHAIL  
 W. J. MARSHALL, M.D.  
 ROBERT MASON  
 C. W. METHVEN  
 WILLIAM MILLIGAN  
 R. MORGAN  
 A. S. MORIES  
 JAMES MORTON  
 JAMES MORTON, JUN.  
 ROBERT MORTON  
 ROBERT MUIR  
 R. G. MURE  
 GEORGE D. NEILL  
 JOHN NEILL  
 ROBERT NEILL  
 STEWART NEILL, JUN.  
 THOMAS NEILL  
 WILLIAM JAS. NEILL  
 JOHN S. NICOL  
 T. R. OGILVIE  
 W. K. OLIPHANT  
 R. D. OLIPHANT

T. B. O'NEILL  
 THEODORE NEISH  
 W. U. PARK  
 ARCHIBALD PATON  
 JAMES PATERSON  
 R. R. PATERSON  
 L. L. PATERSON  
 T. L. PATTERSON  
 JOHN PATTEN  
 JOHN PAUL  
 WILLIAM PHILP  
 W. W. BUIST PICKEN  
 W. B. PICKEN  
 DANIEL RANKIN  
 JOHN F. RANKIN  
 MATTHEW RANKIN  
 GEORGE REIACH  
 ROBERT RENNIE  
 J. K. ROBERTSON, M.D.  
 JOHN RODGER  
 W. W. B. RODGER  
 JOHN ROWAN  
 T. B. ROWAN  
 ALEX. RUSSELL  
 E. SANDEMAN  
 ALEX. SCOTT  
 ALEX. SCOTT, JUN.  
 J. D. SCOTT  
 JOHN SCOTT  
 JOHN SCOTT, JUN.  
 ROBT. SHANKLAND  
 ALEX. SHEARER  
 R. B. SHEARER  
 WILLIAM SHEARER  
 A. SKIVINGTON  
 JAMES SLATER, JUN., B.A.  
 ALEX. SMITH  
 HARRY SMITH  
 ROBERT STEELE, JUN.  
 WILLIAM STEELE  
 ANDREW STEWART  
 JAMES K. STEWART  
 JOHN STEWART  
 SAMUEL STEWART  
 GEORGE SUTHERLAND  
 ARCHD. SWORD  
 JAS. TANNAHILL  
 WILLIAM TAYLOR  
 THOS. M. THORNE  
 REV. JOHN TREW  
 ALEX. J. TURNBULL  
 ALEX. WALKER  
 HUGH WALKER  
 HUGH W. WALKER  
 JOHN WALKER  
 LOUSON WALKER  
 JAMES WALLACE, M.D.  
 UTRICK WALTON  
 WILLIAM WATT  
 HUGH WATSON  
 JOHN WEIR  
 CAPTAIN WILLIAMSON  
 ALEXANDER WILSON  
 WM. A. WILSON, M.D.  
 ROBERT WRIGHT  
 JAMES YORK  
 ROBERT L. YOUNGER  
 WALTER VUILL

# TWENTY-SECOND ANNUAL REPORT

OF THE

## Greenock Philosophical Society.

Read and approved at the Meeting of the Society held in the Watt Institution, on 2nd March, 1883—Dr Wilson, the President, in the Chair.

### 1.—Statement of Accounts.

DR.

To 187 Members' Tickets, at 10/6, . . . .	£98	3	6
„ 203 Ladies' and Youths' Tickets, at 3/6, . . . .	35	10	6
„ Bank Interest, . . . . .	0	2	9
„ Balance from last Session, . . . . .	43	9	3
	<u>£177 6 0</u>		

CR.

By Fees and Expenses of Lectures, . . . .	£83	18	0
„ Museum Committee, . . . . .	10	0	0
„ Printing and Advertising, Stationery, &c., . . . .	22	13	6
„ Officer's Salary, Collecting, Deliveries, &c., . . . .	6	7	9
„ W. Denny, Esq., Lecture by . . . . .	10	0	0
„ Synopsis for 20 years, . . . . .	9	0	0
„ Balance in Treasurer's hands, . . . . .	35	6	9
	<u>£177 6 0</u>		

Greenock, 2nd March, 1883.

DUNCAN M'CALLUM, *Hon. Treasurer.*

Examined, compared with Vouchers, and found correct.

(Signed) J. D. SCOTT, } *Auditors.*  
 „ E. SANDEMAN, }

## 11.—Statement of Proceedings.

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In submitting the Twenty-second Annual Report, your Committee regret to be again compelled to report that both Members' and Ladies' tickets show a falling off as compared with the Twenty-first year of the Society. The number of Members on the Roll this year is 187, against 198 last year; and ladies tickets 203 this year, against 216 last year. The Members can however still be congratulated on the state of the funds, as, owing to careful management, there is still a balance in hand of £35 6s 9d.

The following is a list of the lectures delivered during the Session :—

**Subjects in Science.**—“*Anthropology*,” by the Rev. Henry Calderwood, LL.D., The University, Edinburgh. “*The Mechanism of Sensation*,” by Dr J. M'Gregor Robertson, M.A., The University, Glasgow. “*Colour and Colour Pigments*,” by P. B. Watt, Esq., Glasgow. “*Technical Education in Naval Architecture*,” by Wm. John, Esq., F.R.S.N.A., Barrow.

**In Belles Lettres.**—Four Lectures, Subjects, “*Socrates and the Sophists of Greece*,” “*Shakespeare as a Dramatist and as Moral Teacher*,” “*Spinoza: the Man and his System*,” “*Browning: his Poetry and Philosophy*,” by Professor Knight, LL.D., St. Andrews. “*The Influence of Nationality on Art*,” by W. D. Mackay, Esq., A.R.S.A., Edinburgh. “*Rousseau*,” by Thomas Raleigh, Esq., Lincoln's Inn, London. “*David Hume*,” by Principal Caird, the University, Glasgow. A Lecture on “*Lake Dwellings, with special reference to recent discoveries in Ayrshire*,” was delivered by R. Munro, Esq., M.D., M.A., F.S.A., Scott., Kilmarnock. A Lecture on the Tonic Sol-fa System was also given by J. Spencer Curwen, Esq., London, illustrated by a Choir from the Greenock (Burgh) School Board Schools, under Mr J. Henderson.

In addition to these a Quartette Concert was given, the executants being Members of the Orchestra of the Glasgow Orchestral Concerts. The special thanks of the Members are due to Mr John, Dr Munro, Principal Caird, Mr Curwen, Mr Watt, and Mr M'Kay, all of whom, in the most liberal manner, gave their services gratuitously. The Watt Lecture, delivered by Mr John, was a most interesting and valuable one, and the hearty thanks of the Society are due to him for it. In accordance with a remit made to a small Committee, the “Synopsis of the Proceedings of the Society,” from 1861 to 1881, has now been completed, printed, and issued to the Members, and will doubtless be found not only interesting to Members, but useful to the Officials in future years. The Society is much indebted to the Sub-Committee for the accurate way in which the work has been carried out, but especially to Mr M'Dougall and Mr Love, on the latter of whom the largest part of the labour fell.

The Committee desire to express their sense of the loss the Society has sustained by the death during the past year of Mr Graham Brynner. Mr Brynner always took a deep interest in the welfare of the Society; was President in 1875-6 and 1876-7, and on more than one occasion, through the medium of lectures, gave the members the benefit of his literary studies.

At the Statutory Meeting in December the vacancies which occurred in the Society's Representatives to the Museum Committee were filled up by the election of Dr Wilson and Mr A. P. Lyle. Mr Lyle being unable to accept, Mr W. W. B. Rodger was elected instead. The Office-bearers who retire at this time are Dr Wilson (the President), Mr Donald Macdonald (one of the Vice-Presidents), and Messrs Colin MacCulloch, G. H. Black, Thos. M'Kean, Wm. Milligan, and M. F. Dunlop, all of whom are ineligible for re-election for twelve months.

## OFFICE-BEARERS FOR SESSION 1883-84.

*President*—JAS. WALLACE, M.D.

*Vice-Presidents*—EDWARD BLACKMORE and J. D. SCOTT.

*Treasurer*—DUNCAN M'CALLUM.

*Secretary*—JOHN RODGER.

### *Committee.*

Messrs ROBERT WRIGHT.  
EDWARD SANDEMAN.  
T. L. PATTERSON.  
JAMES BONE.  
J. K. STEWART.  
JNO. DUFF.  
W. R. KINIPPLE.  
JNO. ERSKINE.

Messrs A. S. MORIES.  
Dr WALLACE.  
Rev. JNO. TREW.  
WM. AULD.  
QUINTIN BONE.  
C. S. CAIRD.  
HUGH FULLARTON.

## *SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.*

Messrs M. F. DUNLOP.  
Dr. WALLACE.  
JOHN STEWART.

Messrs D. MACEACHRAN.  
Dr WILSON.  
W. W. B. RODGER.

## *HONORARY MEMBERS OF THE SOCIETY.*

ARCHD. GEIKIE, F.R.S., F.G.S.  
JOHN SHAW.  
G. GREVILLE WILLIAMS, F.R.S.  
RICHARD CHALMERS.

EDWARD CAIRD, B.A.  
JAMES B. STEPHENS.  
DAVID HILL.  
JAMES MILLER.

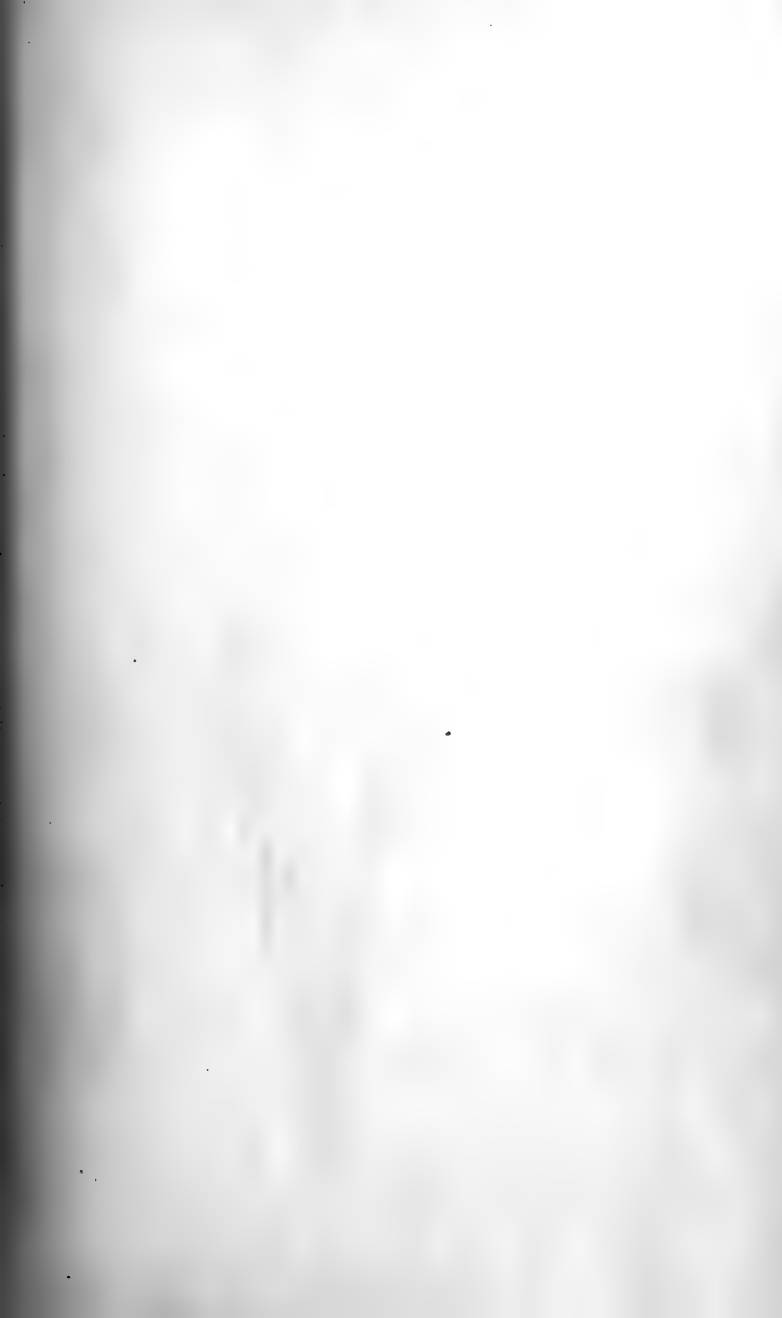
## MEMBERS FOR 1882-83.

ROBERT G. ADAM  
 DAVID AGNEW  
 JAMES AITKEN  
 ROBERT ALLAN.  
 WILLIAM AULD  
 P. BALLINGALL  
 R. A. BAIRD.  
 JOHN BARCLAY  
 GEORGE H. BLACK  
 JAMES BLACK  
 JAMES W. BLACK  
 A. J. BLACK  
 EDWARD BLACKMORE  
 JAMES BONE  
 QUINTIN BONE  
 JAMES BROWN, JUN.  
 J. D. BROWN  
 NEIL BROWN  
 R. C. BROWN  
 T. S. BROWN  
 JOHN BRYCE  
 JOHN BRYMNER  
 COLIN S. CAIRD  
 J. T. CAIRD  
 PATRICK T. CAIRD  
 WILLIAM CAIRD  
 DUGALD CAMPBELL  
 ANDREW CARMICHAEL  
 J. H. CARMICHAEL  
 THOMAS CARMICHAEL  
 R. D. CARMICHAEL  
 ARCHIBALD COOK  
 ALEX. CURRIE  
 C. H. CURTIS  
 ROBERT DARGIE  
 JAMES DONALD  
 JOHN DOUGLAS  
 T. N. DOUGLAS  
 JOHN DUFF  
 JAMES DUNCAN  
 M. F. DUNLOP  
 JOHN DUNLOP  
 DANIEL ERSKINE  
 JOHN ERSKINE  
 ALEX. FERGUSON  
 A. C. FINLAY  
 A. H. FINLAY  
 T. P. FINLAY  
 R. F. FISHER  
 ROBERT FLEMING  
 JUSTUS FLOHR  
 HUGH FULLARTON  
 J. P. FYFE  
 JAMES GLEN  
 JAMES GRAHAM  
 ROBERT GRIEVE  
 WILLIAM HAIR  
 ROBERT HAMILTON  
 ALEX. N. HARVIE  
 F. E. HARVEY  
 WILLIAM HASTIE  
 DUNCAN S. HENDRY  
 JOHN HENDRY

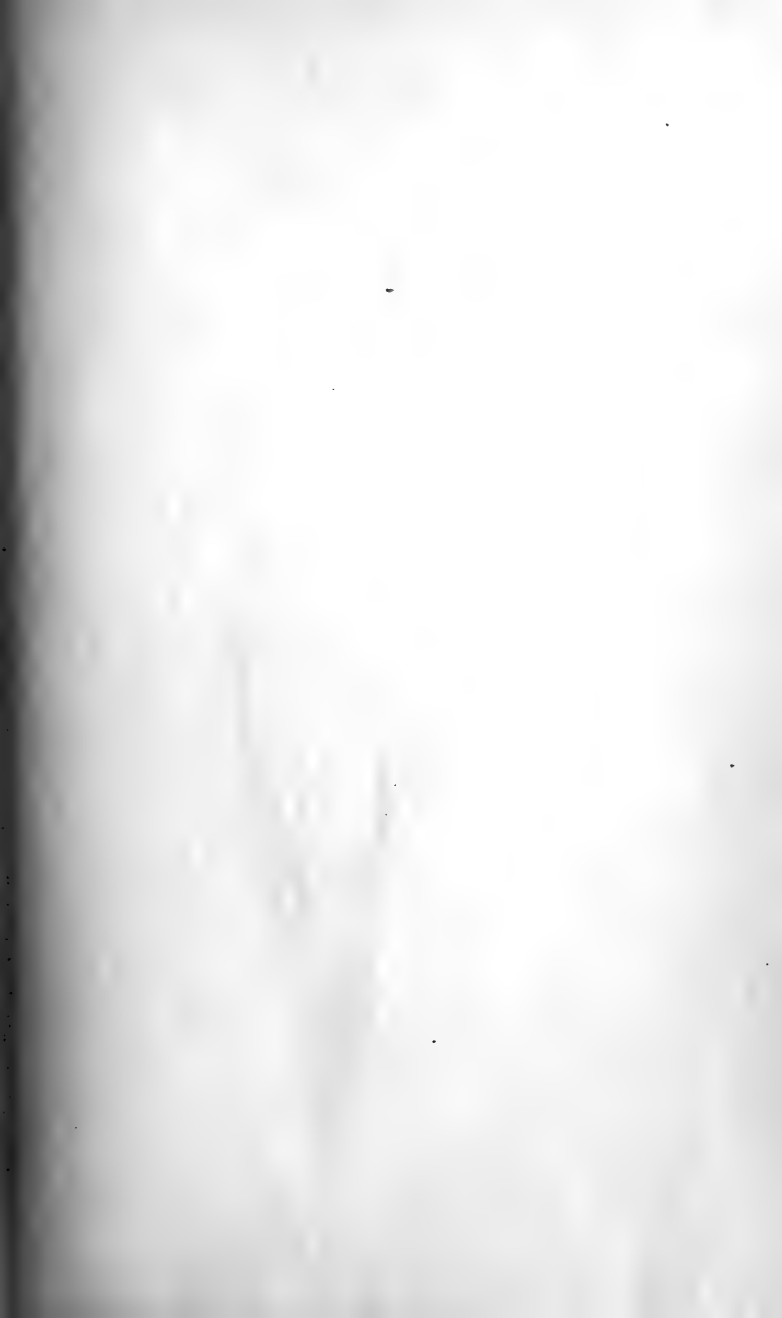
JAMES M. HILL  
 G. W. HOUSTON  
 R. H. HOUSTON  
 J. C. HUNTER  
 J. M. HUTCHESON  
 W. HUTCHISON  
 JOHN HYNDMAN  
 JAMES A. JARVIE  
 REV. J. M. JARVIE  
 ROBERT KERR  
 ROBERT KERR  
 THOMAS KING.  
 JOHN KINLOCH  
 W. R. KINIPPLE  
 WILLIAM KIRKWOOD  
 A. O. LEITCH  
 WILLIAM LINDSAY  
 JOHN LOVE  
 JOHN LUSK  
 ALEXANDER P. LYLE  
 DUNCAN M'CALLUM  
 WILLIAM M'CLURE  
 WILLIAM M'CLURE, JUN.  
 KENNETH M'CASKILL  
 REV. JOHN F. M'PHERSON  
 COLIN MACCULLOCH  
 JAMES MACCUNN  
 GEORGE MACDONALD  
 D. MACDONALD  
 G. R. M'DOUGALL  
 D. MACEACHRAN  
 ROBT. MACFARLANE  
 T. M. MACFARLANE  
 J. M'GREGOR  
 J. D. M'INTYRE  
 JOHN M'IVER  
 EDWARD M'KAY  
 PETER MACKAY  
 A. M'KELLAR  
 F. M. M'LARTY  
 ALEX. S. M'LEAN  
 JOHN M'PHAIL  
 W. J. MARSHALL, M.D.  
 ROBERT MASON  
 W. M. MARTIN  
 C. W. METHVEN  
 WILLIAM MILLIGAN  
 A. S. MORIES  
 JAMES MORTON  
 JAMES MORTON, JUN.  
 ROBERT MORTON  
 ROBERT MUIR  
 R. G. MURE  
 THOMAS MURRAY  
 GEORGE D. NEILL  
 JOHN NEILL  
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 GEORGE REIACH  
 JAMES REID  
 JOHN READDIE  
 ROBERT RENNIE  
 JOHN RODGER  
 W. W. B. RODGER  
 GEORGE ROWAN  
 JOHN ROWAN  
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 WALTER YUILL



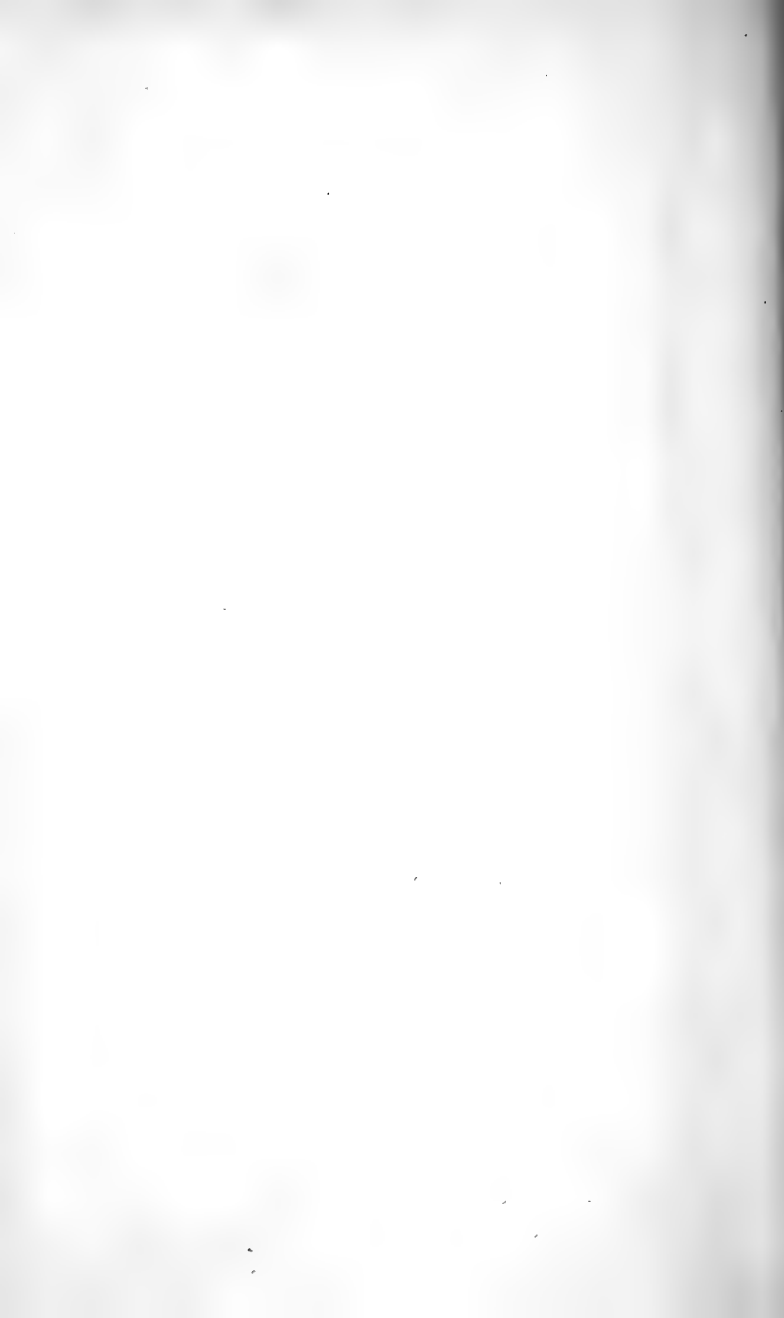


























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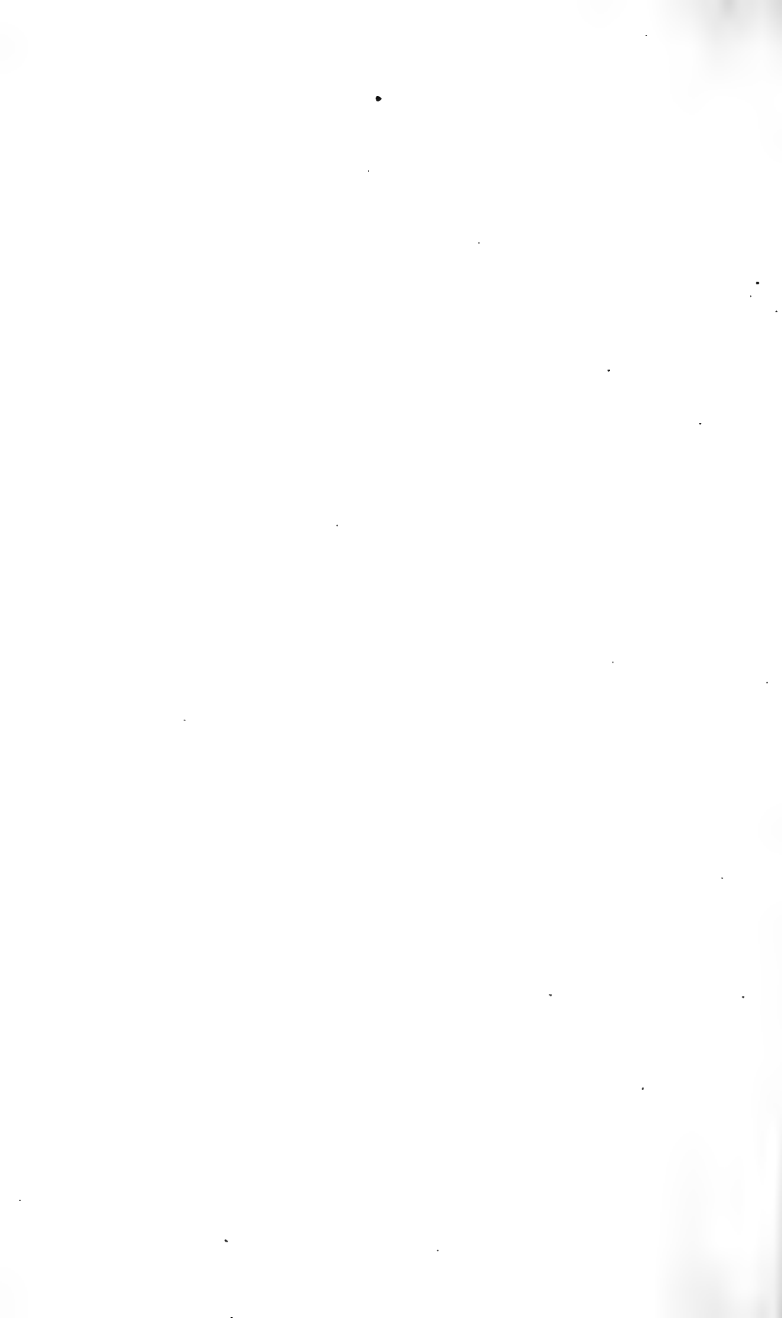


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**TWENTY-SIXTH ANNUAL REPORT**  
**OF THE**  
**Greenock Philosophical Society.**

— • • —  
**SESSION 1886-87.**

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# TWENTY-SIXTH ANNUAL REPORT OF THE Greenock Philosophical Society.

*Read and approved of at the Annual Meeting of the Society, held in the Museum Lecture Hall, Watt Institution, on the Evening of Friday, 4th March, 1887, at 8.15—John Rodger, Esq., the President, in the Chair.*

## 1.—Statement of Accounts.

Dr.			
To Balance from previous Session,	.	.	£30 0 7
„ Members' Tickets, 197 @ 10/6,	.	.	103 8 6
„ Ladies and Youths' Tickets, 224 @ 3/6,	.	.	39 4 0
„ Interest per Bank Book,	.	.	0 9 3
			£173 2 4
Cr.			
By Lecturers' Fees—1st Half,	.	£42 0 0	
„ „ 2nd Half,	.	46 7 0	
			£88 7 0
„ Expenses in connection with Lectures,	.	.	10 10 7
„ Museum Committee—Heating, Lighting, &c., for			
Lecture Hall,	.	.	10 0 0
„ Printing and Stationery,	.	.	12 1 0
„ Advertising,	.	.	7 18 0
„ Collector and Hall Keeper's Commission and Fees,	.	.	6 1 6
„ Postages, Telegrams, and Incidental Expenses, per Secretary,	3	5 2	
„ Sundries,	.	.	2 0 6
„ Balance,	.	.	32 18 7
			£173 2 4

E. & O. E.

4th March, 1887.

ROBT. HAMILTON, *Treasurer.*

*We have examined the above cash account, compared vouchers, and found everything correct.*

J. SLATER, JR., }  
A. C. FINLAY, } *Auditors.*

## 11.—Statement of Proceedings.

In submitting the Twenty-sixth Annual Report, the Committee have much satisfaction in being able to intimate the continued prosperity of the Society, notwithstanding the great depression which has prevailed in our town during the past Session. The practical result of the Session, as regards Members, has been that the Membership of the Society has increased by 20, and 6 additional Ladies' and Youths' Tickets have been issued; and as regards the Finances there is an increase in the Funds of £2 18s, the Balance now at the Society's credit being £32 18s 7d.

The following is a List of the Lecturers and Artistes, and of the Subjects treated by them, viz. :—

**I. Subjects in Science.**—“*Comets and Shooting Stars.*” By Sir Robert Ball, LL.D., F.R.S. “*Destructive Aids in Naval Warfare (Ancient Fire Ships and Modern Torpedoes).*” By John Ward, Shipbuilder, Dumbarton. “*The Artificial Cultivation of Cod and other White Fish.*” By J. C. Ewart, M.D., Professor of Natural History, Edinburgh. “*Military Explosives,*” with Experiments. By Capt. Elliot Black, C.A., F.C.S., Glasgow. “*Evolution in Naval Architecture during the Reign of Queen Victoria*” (Watt Lecture). By Robert Duncan, Shipbuilder, Port-Glasgow. “*Rubbish.*” By Dr Drinkwater, Edinburgh. “*Life and Movement in Plants.*” By Patrick Peddes, F.R.S.E., Edinburgh.

**II. Subjects in Literature and Art.**—“*Recital.*” By Mrs Scott-Siddons. Lecture on the Flute, with Musical Illustrations—“*Pan to Pinafore; Pipes of all Peoples; Flutes of all Ages.*” By Mr John Radcliff and Madame Pauline Rita. “*Recital.*” By Mrs Helen Irene Scott-Thorpe.

**III. General Subjects.**—“*Past and Present—Historical comparison of Scotland as it was and is.*” By Sheriff Nicolson. “*Modern Evolution of Socialism.*” By Prince Kropotkin. “*Some Features of Parliamentary Government in the United States.*” By Edmund Robertson, M.P., LL.D. “*On the Position of Woman in Ancient Rome.*” By James Donaldson, LL.D., Principal, St. Andrews.

Special thanks are due by the Society to Sheriff Nicolson, Mr John Ward, and Capt. Elliot Black, who delivered very able Lectures free of charge; and the Committee record their very special thanks to Mr Robert Duncan, who not only delivered our Watt Lecture free of charge, but requested the privilege of printing and publishing his Lecture under the auspices of our Society, and insisted also on paying the whole expense of the printer's bill.

In terms of the Constitution and Rules, a Special Meeting of the Society was held on 27th December, 1886, to elect two Members of the Society as Representatives on the Museum Committee, in place of Mr M. F. Dunlop and Mr T. L. Patterson, who then retired. On the motion of the President, Mr Rodger, seconded by Mr A. O. Leitch, Messrs Dunlop and Patterson were unanimously re-elected.



In connection with the retiral of Office-Bearers, the Committee desire to record in this Report their great regret at the premature retirals since last Annual Meeting of our President, Mr Edward Blackmore, and one of our Vice-Presidents, Mr Rochfort Connor,—Mr Blackmore having removed to London, and Mr Connor having been promoted to a higher position in Dublin,—both of whom were much respected by their colleagues in office and the Society at large. The Office-Bearers retiring at this time are, Mr John Rodger, President ; Mr Alex. P. Lyle, Vice-President ; Mr Robert Wright, Secretary ; and Messrs J. F. Rankin, Robert Hamilton, A. Campbell Finlay, George R. Macdougall, and Dr Wallace, Members of Committee.

With reference to the discussion at the last Annual Meeting as to the proposed Course of Higher Class Lectures by University Graduates of distinction, started by the Queen Margaret College, Glasgow, a Sub-Committee was appointed to make enquiries at the Secretary of the Queen Margaret College, as to the necessary arrangements and expense of a Course of these Lectures for Greenock, under the auspices of our Society. The result, however, was that the Sub-Committee, after making the fullest enquiries, did not see their way to carry out a Course during this Session.

In closing this Report, the Committee think they are justified in stating that the general opinion of the Society is, that the Session which has just closed is,—as regards the Lecturers, their Subjects, their treatment of them, and the large audiences which have attended,—one of the best on the Records of the Society.

ROBT. WRIGHT,  
*Hon. Secy.*

WATT INSTITUTION,  
4th March, 1887.

(For List of Members and Office-Bearers see Pages 6 and 7).

## MEMBERS FOR 1886-87.

WM. ADAMSON  
 DAVID AGNEW  
 JAMES AITKEN  
 W. N. A. AITKEN  
 ALEX. ALLAN, JR.  
 ROBERT ALLAN  
 R. L. ALSTON  
 R. ARMSTRONG  
 WILLIAM AULD  
 R. A. BAIRD  
 PETER BALLINGALL  
 JOHN BARCLAY  
 A. J. BLACK  
 G. H. BLACK  
 DR. J. R. BLACK  
 WM. BLACK  
 FRITZ R. BLAIR  
 RICHARD BLANCHE  
 QUINTIN BONE  
 JAS. BOSTON, JR.  
 JOHN BOSTON  
 NEIL BROWN  
 W. C. BUCHANAN  
 COLIN S. CAIRD  
 JAMES T. CAIRD  
 PATRICK T. CAIRD  
 DR. MARCUS CALDER  
 ALEX. CAMERON  
 REV. JOHN CAMPBELL  
 ANDW. CARMICHAEL  
 J. H. CARMICHAEL  
 R. D. CARMICHAEL  
 THOMAS CARMICHAEL  
 ROBERT CHALMERS  
 DR. N. GORDON CLUCKIE  
 ARCHD. COOK  
 C. GORDON COWAN  
 F. CRAWFORD  
 J. W. CRAWFORD  
 WM. CROCKATT  
 C. H. CURTIS  
 W. H. CURTIS  
 R. DAVIE, JR.  
 J. S. DENNISTON  
 J. M. DICK  
 JOHN DOUGLAS  
 THOS. N. DOUGLAS  
 JOHN DUNLOP  
 M. F. DUNLOP  
 ROBERT DUNCAN  
 D. M. ERSKINE  
 JOHN ERSKINE  
 DAN. FERGUSON  
 A. CAMPBELL FINLAY  
 A. H. FINLAY  
 JOHN P. FINLAY  
 T. P. FINLAY  
 R. F. FISHER  
 ROBERT FLEMING  
 JOHN P. FYFE  
 P. GATHERER  
 JAMES GLEN  
 JOHN KERR GRAY  
 ROBERT GRIEVE  
 WILLIAM HAIR

ROBERT HAMILTON  
 WM. HARDIE  
 J. CAMPBELL HART  
 JOHN HASTIE  
 WILLIAM HASTIE  
 J. H. HILL  
 JAMES M. HILL  
 G. W. HOUSTON  
 R. H. HOUSTON  
 J. C. HUNTER  
 WM. HUTCHISON  
 WM. HUTCHESON  
 JOHN HYNDMAN  
 REV. M. P. JOHNSTONE  
 ANDREW KERR  
 DANIEL KERR  
 JOHN KERR  
 J. S. KERR  
 ROBERT KERR  
 WM. KIRKWOOD  
 JAMES LANG  
 JOHN LANG  
 JOHN LANG, JR.  
 ARTHUR O. LEITCH  
 WILLIAM LETHAM  
 A. LIVINGSTON  
 JOHN LOVE  
 JOHN LUSK  
 ALEX. P. LYLE  
 R. P. LYLE  
 JAMES LYON  
 HUGH MAIN  
 DR. WM. J. MARSHALL  
 ROBERT MASON  
 WM. MILLIGAN  
 FRANCIS MOON  
 A. S. MORIES  
 JAMES MORTON  
 ROBERT MORTON  
 ROBERT MUIR  
 REV. J. F. MACPHERSON  
 ROBERT MACPHERSON  
 COLIN MACCULLOCH  
 GEORGE MACDONALD  
 ALEX. MACKELLAR  
 ALEX. M'ARTHUR  
 DUNCAN M'CALLUM  
 JOHN M'CLURE  
 WILLIAM M'CLURE  
 WILLIAM M'CLURE, JR.  
 GEORGE R. M'DOUGALL  
 JOHN MACGREGOR  
 ALEX. MACFARLANE  
 ARTHUR A. MACFARLANE  
 JOHN D. M'INTYRE  
 EDWARD M'KAY  
 PETER MACKAY  
 D. B. M'KELVIE  
 JOHN M'KIVER  
 ALEX. S. M'LEAN  
 JOHN M'LEAN  
 JOHN M'PHAIL  
 G. D. NEILL  
 J. D. NEILL  
 JOHN NEILL

WILLIAM NEILL  
 DUNCAN NICOL  
 JOHN S. NICOL  
 G. W. NIVEN  
 WM. U. PARK  
 JAMES PATERSON  
 R. R. PATERSON  
 T. L. PATTERSON  
 HORATIO R. B. PEILE  
 CHARLES PENNELL  
 JOHN PETTIGREW  
 WM. PHILP  
 ANDW. PICKEN  
 REV. ROBT. PRIMROSE  
 JOHN F. RANKIN  
 MATTHEW RANKIN  
 ROBERT RENNIE  
 JOHN RODGER  
 P. LAMONT ROSS  
 WM. ROSS  
 GEORGE ROWAN  
 JOHN ROWAN  
 ALEX. SCOTT  
 JOHN SCOTT  
 JOSEPH D. SCOTT  
 ROBERT SHANKLAND  
 WM. SHEDDAN  
 ALEX. SHEARER  
 ALEX. SHEARER, JR.  
 HUGH SHEARER  
 R. B. SHEARER  
 WM. SHEARER  
 WM. E. SHEARER  
 JAMES SLATER, JR.  
 REV. J. B. SMITH  
 JOHN SOWTER  
 JAMES SPENCE  
 ANDREW SPROUL  
 THOMAS STARK  
 ROBERT STEELE  
 ANDREW STEWART  
 JAS. K. STEWART  
 SAMUEL STEWART  
 GEO. SUTHERLAND  
 ALEX. TAIT  
 J. TANNAHILL  
 J. H. TAYLOR  
 GEO. TEMPLETON  
 ROBERT THORNE  
 THOS. M. THORNE  
 THOS. TODD  
 HUGH W. WALKER  
 JOHN WALKER  
 JOHN W. WALKER  
 LOUSON WALKER  
 DR. JAMES WALLACE  
 JOHN D. WALTON  
 THOS. WILSON  
 DR. W. A. WILSON  
 W. S. WILSON  
 ROBT. WRIGHT  
 JOHN S. YOUNG  
 R. L. YOUNGER  
 WALTER YUILL

# OFFICE-BEARERS FOR SESSION, 1886-87.

*President*—JOHN RODGER.

*Vice-Presidents*—ALEX. P. LYLE AND ROCHFORD CONNOR.

*Treasurer*—ROBERT HAMILTON.

*Secretary*—ROBERT WRIGHT.

## *Committee.*

J. F. RANKIN.  
ROBERT HAMILTON.  
A. CAMPBELL FINLAY.  
GEO. R. M'DOUGALL.  
DR JAS. WALLACE.  
REV. J. F. MACPHERSON.  
ANDW. KERR.  
ANDW. CARMICHAEL.

THOS. P. FINLAY.  
DR W. J. MARSHALL.  
DR W. A. WILSON.  
GEORGE W. HOUSTON.  
ROBERT RENNIE.  
ALEX. S. MORIES.  
J. SLATER, JUN.

## *SOCIETY'S REPRESENTATIVES IN MUSEUM COMMITTEE.*

M. F. DUNLOP.  
T. L. PATTERSON.  
ANDREW SPROUL.

A. CAMPBELL FINLAY.  
DR MARCUS CALDER.  
ROCHFORD CONNOR.

## *HONORARY MEMBERS OF THE SOCIETY.*

ARCHD. GEIKIE, F.R.S., F.G.S.  
JOHN SHAW.  
G. GREVILLE WILLIAMS, F.R.S.  
EDWARD CAIRD, B.A.

JAMES B. STEPHENS.  
DAVID HILL.  
JAMES MILLER.

PRESENTED

22 OCT 1970



Twenty-Seventh Annual Report

OF THE

GREENOCK

PHILOSOPHICAL SOCIETY.

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SESSION 1887-88.

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GREENOCK :  
W. HUTCHISON, PRINTER AND LITHOGRAPHER, 23 NICOLSON STREET.

# OFFICE-BEARERS

FOR SESSION 1888-89.

---

## President.

ALEX. P. LYLE.

## Vice-Presidents.

ALEX. S. MORIES.

\*T. L. PATTERSON, F.C.S.

## Treasurer.

ROBERT HAMILTON.

## Secretary.

JAMES SLATER, B.A., F.E.I.S.

---

## COMMITTEE.

The PRESIDENT, VICE-PRESIDENTS, TREASURER,  
SECRETARY, and

WM. A. WILSON, M.D., C.M.

GEO. W. HOUSTON.

ROBERT RENNIE.

ALEX. SHEARER, Jun.

JOHN RODGER.

CHARLES PENNELL.

WM. M'CLURE, Jun., M.A.

GEO. MACDONALD.

J. CAMPBELL HART.

JAMES AITKEN.

JOHN HASTIE.

WM. U. PARK, M.A.

LOUSON WALKER.

J. WALLACE, M.A., M.D., L.R.C.S.E.

\*ROBERT MUIR.

---

\*MARCUS CALDER, M.D.

\*JOHN R. BLACK, M.D.

\*M. F. DUNLOP.

\*A. C. FINLAY.

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\* *Society's Representatives in Museum Committee.*

# GREENOCK PHILOSOPHICAL SOCIETY.

## Twenty-Seventh Annual Report.

SESSION 1887-88.

*Read and approved at the Annual Meeting of the Society, held in the Museum Lecture Hall, Watt Institution, on 9th March, 1888.—  
Alex. P. Lyle, Esq., President, in the Chair.*

### 1.—Statement of Accounts.

DR.

Balance from previous Session,	.	.	.	.	.	£32 18 7
166 Members' Tickets,	.	.	.	.	£87 3 0	
187 Ladies' and Youths' Tickets,	.	.	.	.	32 14 6	
Tickets of previous Session,	.	.	.	.	0 14 0	
						120 11 6
Interest on Bank Account,	.	.	.	.	.	0 8 11
						<u>£153 19 0</u>

CR.

Lecturers' Fee, 1st Half,	.	.	.	.	£47 14 0	
„ 2nd Half,	.	.	.	.	33 12 0	
						£81 6 0
Expenses connected with Lecturers,	.	.	.	.	.	7 16 9
Museum Committee,	.	.	.	.	.	10 0 0
Printing and Stationery,	.	.	.	.	.	12 9 0
Advertising,	.	.	.	.	.	8 2 0
Collector's and Hall Keeper's Fees,	.	.	.	.	.	5 18 0
Postages and Incidental Expenses of Secretaries,	.	.	.	.	.	4 4 0
Raising Platform, and Fitting up Side Seats,	.	.	.	.	.	11 2 4
Sundries,	.	.	.	.	.	0 7 1½
Balance,	.	.	.	.	.	12 13 9½
						<u>£153 19 0</u>

E. & O. E.

(Signed) ROBERT HAMILTON, *Treasurer.*

GREENOCK, 8th March, 1888.—We have examined the above Account, compared Vouchers, and found all correct, the balance at credit being Twelve pounds thirteen shillings and ninepence halfpenny.

(Signed)

ROB. RENNIE.  
ALEX. SHEARER, JUN.

## 11.—Statement of Proceedings.

From the Treasurer's Statement it will be noticed that the number of members is 166, and the number of tickets issued to ladies and youths 187. Compared with the previous year, this shows a decrease of 31 on the roll of members, and 37 less ladies and youths, with a consequent fall in income to the extent of £22 15s. This declension is largely due to the depression in trade, which has been felt for some years, and is now experienced by this Society. Despite this unavoidable retrogression, and some extraordinary outlay, the session ends with a balance at the credit of the Society of £12 13s 9d, a saving of about £10 having been effected on the expenses of the lectures.

The following is a list of the lectures delivered during the Session :—

**I. Subjects in Science.**—“*Spectrum Analysis.*” By W. Ivison Macadam, Esq., F.I.C., F.C.S., Professor of Chemistry, Edinburgh. “*The Physiology of the Skin.*” By Professor A. M. Buchanan, M.A., M.D., Glasgow. “*The Progress of Invention in Practical Mechanics*” (Watt Lecture). By John Scott, Esq., C.B. “*Pasteur and his Work.*” By Ernest A. Parkyn, Esq., M.A., Cambridge University Lecturer in Science. “*The Early History and Development of the Art of Diving, and the Application of its Principles to Submarine Engineering Works.*” By Cathcart W. Methven, Esq., M.Inst.C.E., F.R.S.E. “*Behind the Plough, or Science in Furrows.*” By R. H. Wallace, Esq., Lecturer on the Principles of Agriculture, Edinburgh. “*Physiological Lessons from the Electric Fishes.*” By Professor John G. M'Kendrick, M.D., LL.D., F.R.S., F.R.S.E., F.R.C.P.E., Glasgow.

**II. General Subjects.**—“*Cambridge; A View of its Literary Society, with Special Notices of Longfellow, Holmes, and Lowell;*” and “*Concord, and its famous men,—Emerson, Hawthorne, and Thoreau*” (Two Lectures). By Francis H. Underwood, Esq., LL.D., U.S. Consul, Glasgow. “*Bi-metallism.*” By Professor J. Shield Nicholson, M.A., D.Sc., Edinburgh. “*The Music of Words, or Sound an Echo of the Sense.*” By Wm. Jolly, Esq., F.R.S.E., F.G.S., H.M. Inspector of Schools. “*Modern Composers of Classical Song.*” By Carl Armbruster, Esq., London. With Vocal Illustrations by Miss Pauline Cramer. “*Tasso; his Life and Works.*” By Rev. Hugh Macmillan, D.D., LL.D., F.R.S.E. “*The Humours of Besieged Paris.*” By John Augustus O'Shea, Esq., formerly War Correspondent of the *Standard*.

It will be observed that the Papers read have dealt chiefly with Scientific Subjects, although the Committee made every effort to provide



as great a variety as possible. That the Lecturers have fully maintained the high standard of previous years, is evidenced by the good attendance of Members throughout the Session.

The Session commenced on 4th November, and the Opening Lecture was delivered by Dr Underwood, who also delivered the second Lecture.

The Watt Anniversary Lecture was delivered by an old and esteemed Member of the Society, John Scott, Esq., C.B., who took as his subject "The Progress of Invention in Practical Mechanics," which he illustrated by a series of carefully prepared drawings lime light views and models. In response to a general desire, Mr Scott kindly allowed the drawings and models to remain on exhibition in the Hall for some days. The warmest thanks of the Society are due to Mr Scott, not only for his very valuable lecture, but also for kindly consenting to present it to the Society in a permanent form.

The cordial thanks of the Society are also due to Mr Methven for his interesting lecture on the Early History and Development of the Art of Diving, which he likewise kindly contributed free of charge, and illustrated by diagrams and apparatus.

To the Rev. Dr Macmillan the Society is greatly indebted for the readiness with which, on very short notice, he so kindly took the place of the Rev. Wm. S. Green, who was unable to fulfil his engagement through sudden illness in his family.

Since last Annual Meeting, Mr John Ward's able Lecture on "Destructive Aids in Naval Warfare," has been printed and published under the auspices of the Society. The most cordial acknowledgements of the Society are due to Mr Ward, who insisted on bearing all the expense of publication, and kindly sent 50 copies for distribution among the Members. Mr Robert Duncan also very kindly forwarded some more copies of his Lecture. In all eight Papers have now been published by the Society ; of which Mr Ward's Lecture is No. 7, and Mr Duncan's No. 8.

At Mr Ward's request, a complete set of the Society's Papers was sent to the Secretary of the Institution of Civil Engineers, London, who wished them for the Library.

By the kindness of Mr John Love, in supplying some copies of the early Papers, which were out of print, the Committee were enabled to present complete sets of the Society's Publications (bound), to the Greenock Library, and to the Museum, and bind a third set for preservation by the Secretary.

The Committee were again approached this Session by the Lecture Committee of the Queen Margaret Guild, with a view to taking up their Local Lecture Scheme, but they did not see their way to undertake this, chiefly in view of the difficulty of getting a guarantee fund, and disposing of tickets, in the present state of trade in town.

The extraordinary expenditure already alluded to was incurred in permanently raising the platform and fixing folding seats along the walls of the Lecture Hall. The heightening of the platform had long been considered desirable, and has greatly increased the comfort of the audience. The improvement of the acoustics was also under the consideration of the Committee.

At the Statutory Meeting in December, the vacancies, which occurred in the Society's Representatives in the Museum Committee, were filled up by the election of Messrs A. C. Finlay and Robert Muir. The Museum Committee have appointed Dr John R. Black to the vacancy caused by the resignation of Mr Rochfort Connor.

The Office-Bearers who retire at this time are Mr M. F. Dunlop (one of the Vice-Presidents), and Rev. J. F. Macpherson, Mr Andrew Kerr, Mr Andrew Carmichael, Mr Thomas P. Finlay, and Dr Marshall, Members of Committee, all of whom are ineligible for re-election for twelve months. A vacancy has also occurred through the resignation of Mr Wright.

At the beginning of the Session, an unsuccessful endeavour was made to keep up the Membership. In closing the Report, the Committee would urge that a special effort should be made next Session to increase the Roll of Members.

# LIST OF MEMBERS FOR 1887-88.

## I.—HONORARY MEMBERS.

(With Year of Election.)

ARCHD. GEIKIE, LL.D., F.R.S.	1863
JOHN SHAW . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S.	1863
JAMES B. STEPHENS . . . . .	1864
EDWARD CAIRD, LL.D.	1865
DAVID HILL . . . . .	1865
JAMES MILLER . . . . .	1873

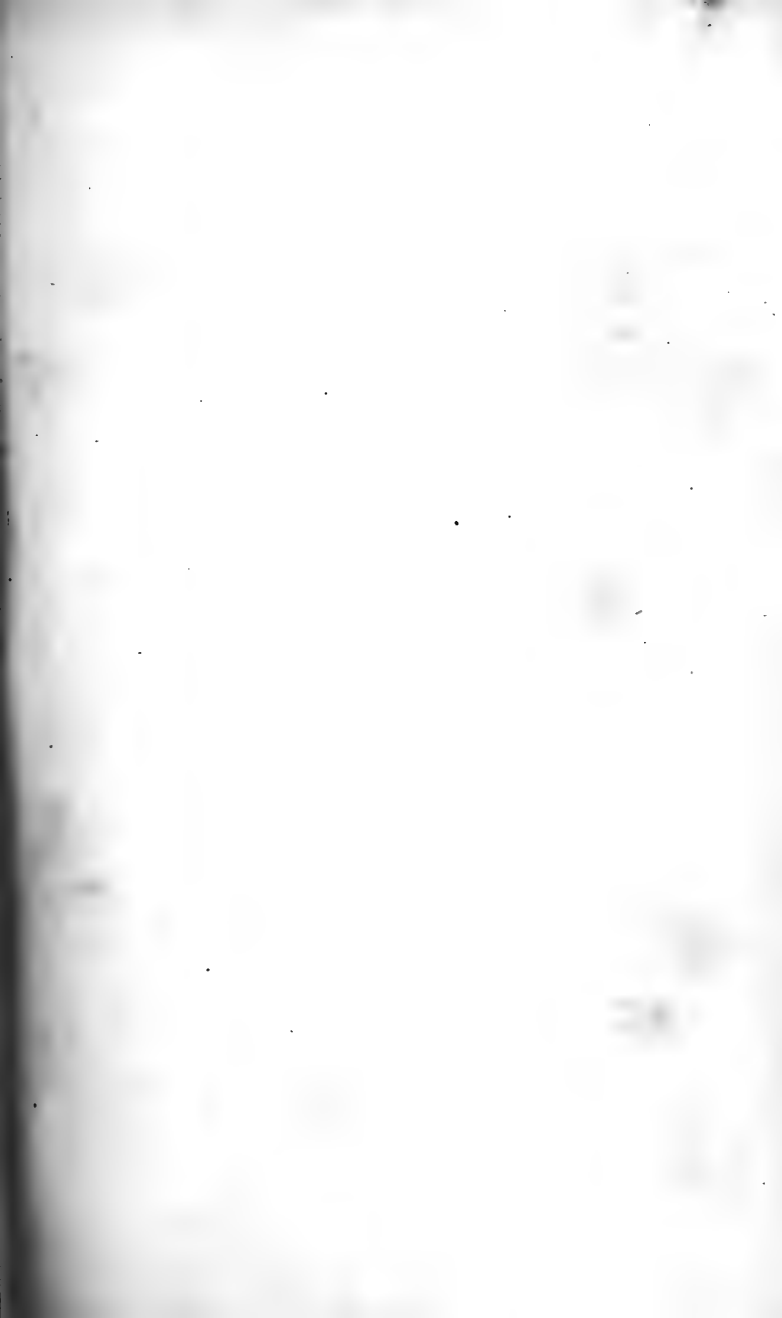
## II.—ORDINARY MEMBERS.

ADAMSON, WILLIAM . . . . .	22 Margaret Street.
AGNEW, DAVID . . . . .	28 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank, Watt Place.
ALLAN, ALEXANDER . . . . .	67 Newton Street.
ALLAN, ROBERT . . . . .	67 Newton Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAIRD, A. R. . . . .	9 Sugarhouse Lane.
BALLINGALL, PETER . . . . .	Bank of Scotland, 47 Cathcart St.
BARCLAY, JOHN . . . . .	Oakfield East, Ratho Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, GEO. H., B.L. . . . .	9 Forsyth Street.
BLACK, JOHN R., M.D. . . . .	6 George Square.
BLAIR, FRITZ R. . . . .	58 Eldon Street.
BROADFOOT, JAMES . . . . .	23 Bentinck Street.
BROWN, NEIL . . . . .	Dunclutha, 67 Esplanade.
CAIRD, COLIN S. . . . .	Dungourney, 13 Newark Street.
CAIRD, PATRICK T. . . . .	9 Newark Street.
CALDER, MARCUS, M.D. . . . .	12 Union Street.
CARMICHAEL, ANDREW . . . . .	34 Forsyth Street.
CARMICHAEL, J. D. M. . . . .	Milnwood, 93 Finnart Street.
CARMICHAEL, JOHN H. . . . .	76 Finnart Street.
CARMICHAEL, R. D. . . . .	Milnwood, 93 Finnart Street.

CARMICHAEL, THOMAS	. . .	35 Esplanade.
CLERK, DUNCAN	. . .	25 Octavia Terrace.
CLINK, CHAS. W.	. . .	53 Octavia Terrace.
COOK, ARCHIBALD	. . .	13 Ardgowan Street (West).
CRAWFORD, J. W.	. . .	Elmbank, 34 Esplanade.
CRAWFORD, THOMAS	. . .	61 Brisbane Street.
CROCKATT, WILLIAM	. . .	4 Ardgowan Square.
CURTIS, C. H.	. . .	Ebberly, 27 Octavia Terrace.
CURTIS, W. H.	. . .	27 Bentinck Street.
DAVIE, ROBERT	. . .	4 Fox Street.
DENNISTON, J. S.	. . .	19 Patrick Street.
DOUGLAS JOHN	. . .	Mount Stewart, 20 Margaret Street.
DOUGLAS, T. N.	. . .	155 Eldon Street.
DUNCAN, ROBERT	. . .	Ardenclutha, Port-Glasgow.
DUNLOP, M. F.	. . .	Glenview, 95 Newton Street.
ERSKINE, D. M.	. . .	Finnart Grove.
ERSKINE, JOHN	. . .	Finnart Grove.
FERGUSON, A. D.	. . .	47 Brougham Street.
FERGUSON, DANIEL	. . .	23 Ardgowan Street (West).
FINLAY, A. C.	. . .	62 Esplanade.
FINLAY, A. H.	. . .	56 Esplanade.
FINLAY, T. P.	. . .	61 Eldon Street.
FISHER, R. F.	. . .	40 Forsyth Street.
FLEMING, JAMES	. . .	37 Fox Street.
FLEMING, ROBERT	. . .	22 Robertson Street.
FYFE, JOHN P.	. . .	60 Esplanade.
GILMER, J. W.	. . .	4 Finnart Street.
GLEN, JAMES	. . .	Lincluden, 19 Octavia Terrace.
GRIEVE, ROBERT	. . .	Glenholm, 7 Newark Street.
HAIR, WILLIAM	. . .	33 Union Street.
HAMILTON, ROBERT	. . .	27 Finnart Street.
HARDIE, WILLIAM, C.A.	. . .	55 Esplanade.
HART, J. CAMPBELL	. . .	Glengarden, Fox Street.
HASTIE, JOHN	. . .	4 Robertson Street.
HASTIE, WILLIAM	. . .	28 Ardgowan Street (West).
HILL, J. H.	. . .	Annie Bank, 13 Eldon Street.
HILL, J. M.	. . .	52 Esplanade.
HOUSTON, G. W.	. . .	Woolton, 93 Eldon Street.
HOUSTON, R. H.	. . .	Birnam, 40 Newark Street.
HUTCHESON, WM.	. . .	8 Ardgowan Street (West).
HUTCHISON, WM.	. . .	24 Kelly Street.
HYNDMAN, JOHN G.	. . .	6 Fox Street.
KERR, ANDREW	. . .	97 Brisbane Street.
KERR, DANIEL	. . .	Heywood, 1 Margaret Street.
KERR, JOHN	. . .	Heathfield, 53 Eldon Street.
KERR, J. S.	. . .	Clydeview, 49 Margaret Street.
KERR, ROBERT	. . .	55 Newton Street.
LAIRD, JOHN	. . .	Marchmont, Port-Glasgow.

LANG, JAMES . . . .	64 Newton Street.
LANG, JOHN . . . .	40 Eldon Street.
LEITCH, ARTHUR O. . . .	Madeira Lodge, 8 Newark Street.
LETHAM, WILLIAM . . . .	63 Union Street.
LOVE, JOHN . . . .	Royal Bank, 38 Cathcart Street.
LUSK, JOHN . . . .	Rosebank, 25 Forsyth Street.
LYLE, ALEX. P. . . .	Marshall, 105 Finnart Street.
LYLE, R. P. . . .	Ingleholme, 107 Finnart Street.
M'CLURE, JOHN . . . .	Mayfield, 66 Union Street.
M'CLURE, WILLIAM, JUN., M.A. .	Mayfield, 66 Union Street.
MACDONALD, GEORGE . . . .	Erlsmere, 101 Finnart Street.
MACDOUGALL, G. R. . . .	22 Fox Street.
MACFARLAN, ALEX. . . .	75 Union Street.
MACINTYRE, JOHN D. . . .	22 Patrick Street.
MACKAY, EDWARD . . . .	8 George Square.
MACKAY, PETER . . . .	98 Eldon Street.
MACKELLAR, ALEX. . . .	45 Finnart Street.
M'KELVIE, D. B. . . .	5 Robertson Street.
M'KIVER, JOHN . . . .	Eastwood, 39 Finnart Street.
M'LEAN, ALEX. S. . . .	8 Wellington Street.
MACPHERSON, REV. J. F., M.A., B.D.	24 Forsyth Street.
MACPHERSON, ROBERT . . . .	17 Ardgowan Square.
MARSHALL, WM. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MASON, ROBERT . . . .	Nellieslee, Newark Street.
MILLIGAN, WILLIAM . . . .	58 Forsyth Street.
MOON, FRANCIS . . . .	38 Brisbane Street.
MORIES, ALEX. S. . . .	63 Finnart Street.
MORTON, JAMES . . . .	30 Forsyth Street.
MUIR, ROBERT . . . .	Ardmore, 38 Newark Street.
MUMME, CARL . . . .	1 Ardgowan Street (West).
NEILL, GEO. D. . . .	26 Forsyth Street.
NEILL, JOHN, M.A. . . .	Glenfield, 1 Bedford Street.
NEILL, J. D. . . .	National Bank, Cathcart Street.
NICOL, DUNCAN . . . .	63 Eldon Street.
NICOL, JOHN S. . . .	15 Forsyth Street.
NIVEN, G. W. . . .	23 Newton Street.
NIVEN, WILLIAM . . . .	Craigend Villa, 15 Johnstone Street.
PARK, W. U., M.A. . . .	77 Newton Street.
PATERSON, JAMES . . . .	Ashfield, 33 Finnart Street.
PATERSON, JAMES . . . .	7 Belville Street.
PATERSON, R. R. . . .	Elmhurst, 42 Newark Street.
PATTERSON, T. L., F.C.S. . . .	Belmont, 46 Margaret Street.
PENNELL, CHARLES . . . .	23 Patrick Street.
PETTIGREW, JOHN . . . .	29 Finnart Street.
PHILP, WILLIAM . . . .	51 Union Street.
PRIMROSE, REV. ROBERT . . . .	33 Union Street.
RANKIN, JOHN F. . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . .	21 Octavia Terrace.

RENNIE, ROBERT . . . .	36 Union Street.
ROBINSON, ARCHIBALD, F.R.C.V.S.	20 Patrick Street.
RODGER, JOHN . . . .	36 Forsyth Street.
ROSS, P. L. . . . .	3 Brougham Street.
ROSS, WILLIAM . . . .	63 Esplanade.
ROWAN, GEORGE . . . .	2 Bentinck Street.
ROWAN, JOHN . . . .	Clydeview, 55 Esplanade.
SCOTT, ALEXANDER . . . .	Denniston, 41 Newark Street.
SCOTT, JOHN, C.B. . . .	Seafield House, 34 Brougham Street.
SCOTT, JOSEPH D. . . .	Beltrees, 58 Union Street.
SHANKLAND, ROBERT . . .	The Craigs, 21 Newark Street.
SHEARER, ALEX. . . . .	2 Glen Street.
SHEARER, ALEX., JR. . . .	2 Glen Street.
SHEARER, R. B., M.A., LL.B.	Hartfell, 97 Finnart Street.
SHEARER WILLIAM . . . .	Hartfell; 97 Finnart Street.
SHEDDEN, WILLIAM . . . .	Sea View, 28 Ashton Rd., Gourrock.
SLATER, JAMES, B.A., F.E.I.S.	5 Robertson Street.
SMITH, REV. J. B. . . . .	24 Margaret Street.
SOWTER, JOHN . . . . .	159 Eldon Street.
SPEIRS, WILLIAM . . . .	4 Glen Street.
SPROUL, ANDREW . . . .	23 Lyle Street.
STARK, THOMAS. . . . .	17 Fox Street.
STEELE, ROBERT . . . .	40 Finnart Street.
STEWART, ANDREW . . . .	14 Newark Street.
STEWART, JAMES K. . . .	54 Forsyth Street.
STEWART, SAMUEL . . . .	Knocknair, Bogston.
STORY, W. G. . . . .	2 Grey Place.
SUTHERLAND, GEORGE . . .	27 Robertson Street.
SYMINGTON, ANDREW, JUN.	13 Ardgowan Street (West).
TAIT, ALEXANDER . . . .	35 Brisbane Street.
TAYLOR, H. J. . . . .	55 Forsyth Street.
TEMPLETON, GEORGE . . .	12 Ardgowan Street.
THORNE, ROBERT . . . .	Clevelands, 36 Newark Street.
THORNE, T. M. . . . .	Wardwood, 51 Octavia Terrace.
WALKER, HUGH W. . . . .	Bellevue, 19 Eldon Street.
WALKER, JOHN . . . . .	59 Newton Street.
WALKER, JOHN W. . . . .	75 Union Street.
WALKER, LOUSON . . . .	Westhorpe, 44 Newark Street.
WALLACE, JAMES, M.A., M.D., L.R.C.S.E. . . . .	16 Union Street.
WALLACE, WM. K. . . . .	30 Ardgowan Street (West).
WALTON, J. D. . . . .	65 Union Street.
WILLIAMSON, GEORGE, JUN.	37 Newton Street.
WILSON, WM. A., M.D., C.M.	Thorncliffe, 54 Brisbane Street.
YOUNGER, R. L. . . . .	28 Finnart Street.
YUILL, WALTER . . . . .	29 Regent Street,



Printed  
LONDON





# TWENTY-EIGHTH ANNUAL REPORT

OF THE

➤ Greenock ➤

# Philosophical Society

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SESSION 1888-89.

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GREENOCK:

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET,  
1889.

# OFFICE-BEARERS FOR SESSION 1889-90.

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President—ALEX. S. MORIES.

Vice-Presidents— { T. L. PATTERSON, F.I.C., F.C.S.  
                              { LOUSON WALKER.

Treasurer—ROBERT HAMILTON.

Secretary—JAMES SLATER, B.A., F.E.I.S.

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## Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

ALEX. P. LYLE.

WM. M'CLURE, Jun., M.A.

GEO. MACDONALD.

J. CAMPBELL HART.

JAMES AITKEN.

JOHN HASTIE.

WM. U. PARK, M.A.

J. WALLACE, M.A., M.D., L.R.C.S.E.

ROBERT MUIR.

JOHN F. RANKIN.

ROBERT CAIRD.

CARL MUMME.

AND. CARMICHAEL.

Rev. J. F. MACPHERSON, M.A., B.D.

M. F. DUNLOP.

A. CAMPBELL FINLAY.

MARCUS CALDER, M.D.

JOHN R. BLACK, M.D., C.M.

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## Committee of Museum and Hall.

*(Elected by Proprietors of Library.)*

WALTER W. B. RODGER.

JOHN RODGER.

JOHN SCOTT, C.B., F.R.S.E., *Chairman.*

ARCH. SWORD.

LOUSON WALKER, *Treasurer.*

F. D. MORRISON.

*(Elected by Philosophical Society.)*

T. L. PATTERSON, F.I.C., F.C.S.

M. F. DUNLOP.

A. CAMPBELL FINLAY, *Secretary.*

ROBERT MUIR.

MARCUS CALDER, M.D.

JOHN R. BLACK, M.D., C.M.

# GREENOCK PHILOSOPHICAL SOCIETY.

## Twenty-Eighth Annual Report,

SESSION 1888-89.

*Read and approved at the Annual Meeting of the Society, held in the Museum Lecture Hall, Watt Institution, on 1st March, 1889—  
Alex. P. Lyle, Esq., President, in the Chair.*

### 1.—Statement of Accounts.

DR.

Balance from previous Session, . . . . .	£12 13 9
189 Members' Tickets, . . . . .	£99 4 6
219 Ladies' and Youths' Tickets, . . . . .	38 6 6
Interest on Bank Account, . . . . .	137 11 0
	0 5 11
	<u>£150 10 8</u>

CR.

Lecturers' Fees, 1st Half, . . . . .	£55 13 0
" 2nd Half, . . . . .	34 8 0
Expenses connected with Lectures, . . . . .	£90 1 0
Museum Committee, contribution towards lighting, heating, and cleaning Lecture Hall, . . . . .	4 5 11
Printing and Stationery, . . . . .	10 0 0
Advertising, . . . . .	10 7 6
Collector's Commission and Hall-keeper's Fee, . . . . .	7 6 6
Postages and Incidental Expenses of Secretary, . . . . .	6 3 0
Acoustics of Lecture Hall, . . . . .	2 14 4
Sundries, . . . . .	1 7 6
Balance, . . . . .	0 5 8
	17 19 3
	<u>£150 10 8</u>

E. & O. E.

(Signed) ROBERT HAMILTON, *Treasurer.*

GREENOCK, 28th February, 1889.—We have examined the above Account, compared the Vouchers, and found all correct, the balance at credit being Seventeen pounds nineteen shillings and threepence sterling.

(Signed) J. CAMPBELL HART, }  
ALEX. SHEARER, JUN., } *Auditors.*

## 11.—Statement of Proceedings.

In submitting their Report for the past Session the Committee are happy to state that there has been a considerable increase in the Membership. This year they succeeded in completing the programme for the whole Session prior to the commencement of the Course of Lectures. Copies of the programmes were posted to a number of gentlemen unconnected with the Society, who were afterwards called upon by the Collector, and a gratifying response was made. The number of Members at the close of last Session was 166; since then 37 have joined, 11 have resigned, and 4 died, leaving 188 now on the roll. There has been a corresponding increase in the number of ladies' and youths' tickets—219 of these having been issued. It will be seen from the Treasurer's Statement that the balance at credit of the Society now stands at £17 19s. 3d.

The following Lectures were delivered during the past Session—1888-89:—

- Nov. 2.—“*How Jupiter and Venus caused the Great Ice Age.*” Illustrated by the Oxy-Hydrogen Lantern. By Sir ROBERT S. BALL, K.B., F.R.S., Royal Astronomer of Ireland.
- “ 9.—“*The Buried Cities of Ancient Egypt.*”—Illustrated by the Oxy-Hydrogen Lantern. By Miss AMELIA B. EDWARDS, L.H.D., Ph.D., LL.D., Vice-President of the Egypt Exploration Fund.
- “ 16.—“*Poetry: its Nature and Relations to Modern Life and Progress.*” By WILLIAM JOLLY, Esq., F.R.S.E., F.G.S., H.M. Inspector of Schools.
- “ 23.—“*Scottish Humour.*” Illustrated by Characteristic Anecdotes. By DAVID PRYDE, Esq., M.A., LL.D., F.R.S.E., Principal of the Edinburgh Ladies' College.
- “ 30.—“*Earthquakes, Volcanoes, and Geysers.*” With Oxy-Hydrogen Lantern Illustrations. By Commander CHARLES READE, R.N., London.
- Dec. 7.—“*John Ruskin: his Life, Teaching, and Character.*” By JOSEPH FORSTER, Esq., London.
- “ 14.—“*Humorous and Pathetic Ballads.*” With Illustrations. By WILLIAM ALEXANDER BARRETT, Esq., Mus. Bac. Oxon., Vicar-Choral of St. Paul's Cathedral; H.M. Assistant-Inspector of Music, London.

- Jan. 18.—IN HONOUR OF THE BIRTHDAY OF JAMES WATT (January 19):  
*"The Steam Engine since the Days of Watt."* By HENRY DYER, Esq., C.E., M.A., B.Sc., M.Inst.N.A., Vice-President of the Institution of Engineers and Shipbuilders of Scotland; lately Principal of the Imperial College of Engineering, Tokio, Japan.
- " 25.—*"John Bull and Jacques Bonhomme."* By M. MAX O'RELL, London.
- Feb. 1.—*"A Dredging Cruise in the Atlantic."* Illustrated by the Oxy-Hydrogen Lantern. By Rev. WILLIAM S. GREEN, F.R.G.S., Carrigaline, Cork.
- " 8.—*"Ceylon, as seen by Myself."* With Lime-Light Illustrations. By ROBERT WALLACE, Esq., Professor of Agriculture and Rural Economy in the University of Edinburgh.
- " 15.—*"Pictures of the Year: The Academy and the Salon."* Illustrated by the Oxy-Hydrogen Lantern. By HENRY BLACKBURN, Esq., London, Editor of Academy Notes, &c., &c.
- " 22.—*Béranger: the French Burns."* With Illustrative Readings in French. By M. JULES A. L. KUNZ, Lecturer on French Literature in Heriot-Watt College, Edinburgh, and Queen Margaret College, Glasgow.

As has been the case in recent Sessions, this year's course consisted of lectures on a variety of subjects by different lecturers. The papers read have been chiefly of a literary nature; last Session scientific subjects predominated. The ability of the Committee to provide first-class lectures largely depends on the funds placed at their disposal. It has been their aim to maintain the high standard hitherto attained, and they take the good attendance of the members throughout the Session as an indication of their success in this direction.

For the Watt Anniversary Lecture the Committee were fortunate in obtaining the services of Mr. Henry Dyer, C.E., M.A., B.Sc., Glasgow, to whom the warmest acknowledgments of the Society are due for his able lecture on *"The Steam Engine since the Days of Watt."* The Committee recommend that, with Mr. Dyer's approval, his lecture be printed as one of the Papers of the Society, and distributed to the members.

It will be noticed that limelight illustrations were a feature of several of the lectures. The special thanks of the Society are due to two of the members—Mr. Andrew Kerr and Mr. T. L. Patterson—

for so kindly giving their services and lanterns in connection with these exhibitions.

At last Annual Meeting it was remitted to Mr. T. L. Patterson and the Secretary to take steps for improving the acoustics of the Lecture Hall. In accordance with their recommendation horizontal rows of woollen braid have been tacked on the walls at intervals of a yard, as being a likely and inexpensive method of damping the sound.

The attention of the Committee having recently been directed to the terms of the late Mr. James M'Lean's will, as quoted in the *Synopsis of the Society's Proceedings*, especially with respect to the testator's direction to his trustees to expend part of the income of the trust in defraying the cost of lectures, it was remitted to a sub-committee—consisting of the President, Mr. George Macdonald, and Mr. John Rodger—to look into the matter and report. Having investigated the matter, they reported that there was no doubt, in their opinion, that, by the terms of Mr. M'Lean's will, the trustees were bound to expend a share of the annual income of the residue of the estate in providing lectures, to be delivered in the Society's Hall. It had, however, been explained to them that the income at the disposal of the trustees was at present limited, that a discretionary power had been vested in the trustees by Mr. M'Lean in regard to the distribution of the funds, and that the Museum and the Library were considered by the trustees more necessitous than this Society. The trustees, through their law-agent, had expressed themselves as willing to consider the claim of the Society, as soon as they were in possession of increased funds, which they expected when the present annuities payable by the trust fell in. The Committee, in view of the information received from Mr. M'Lean's trustees, recommend that matters be allowed to remain as at present—looking particularly to the knowledge on the part of the Philosophical Society that the Museum Committee were still greatly in need of funds. At the same time, in order to keep the claim of the Society to a share of the residue of Mr. M'Lean's estate before the trustees, they further recommend that the Secretary be instructed to write the trustees, referring to the interview of the Committee with their law-agent, and informing them that the Society was not disposed at present to press the claim it had, but reserved to itself to put it forward at any time

it may seem to it proper, from a change of circumstances or otherwise, to do so.

Early in the Session, the Glasgow University Extension Board communicated with the Committee, with a view to the institution of their Local Lecture Scheme in Greenock. The University Board also intimated that a similar proposal had been made to the Provost and to the Chairman of the School Board. The Committee, being of opinion that some effort should be made on the present occasion to further the scheme, resolved to take steps to carry out the object of the University, if no action were taken by the Provost or the Chairman of the School Board. The Committee are happy to report that Provost Shankland entered heartily into the scheme. Under his presidency a public meeting was held in November, at which an influential Local Committee was appointed, under whose auspices two courses of lectures on English Literature were recently commenced. This gratifying result is due in no small measure to the energetic co-operation of the President, Mr. A. P. Lyle.

At the usual meeting of the Society in December, the Annual Report by the Committee of the Museum and Lecture Hall was submitted, a summary of which is appended. At the same time the vacancies in the Museum Committee were filled up by the re-election of Drs. Calder and Black, whose term of office had expired.

The Office-bearers who now retire are Mr. A. P. Lyle, President; Mr. A. S. Mories, one of the Vice-Presidents; Mr. Robert Hamilton, Treasurer; and Dr. Wilson, Mr. Geo. W. Houston, Mr. Rob. Rennie, Mr. Alex. Shearer, jun., and Mr. John Rodger, members of Committee. With the exception of the Treasurer, they are severally ineligible to the same office for twelve months. A vacancy has also occurred in the Committee through the lamented death of Mr. Charles Pennell.

## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1888.



During the year a marble tablet to the memory of the late Mr. James M'Lean was erected by the trustees. Along with the marble bust of Mr. M'Lean which stands in the Museum, it forms a fitting memorial to that gentleman who with so great liberality erected and endowed the Museum and Hall.

A very valuable addition to the antiquities in the Museum is the interesting collection sent by Miss Edwards, Hon. Secretary of the Egypt Exploration Fund, through Mr. Patterson, our Chairman.

For several years the Committee have given special attention to the formation of a thoroughly good collection of British birds. This year the addition of no less than 141 has been made. Most of these are specimens of very rare birds. Twenty-four particularly beautiful specimens were brought from America by Mr. G. R. M'Dougall, of which he presented a number of the most valuable.

In June the loan from the Art Collection of South Kensington was renewed as usual, the four cases being filled with a beautiful display of works and manufactures.

The Committee have for some years wished to obtain models representing the inventions of Watt, and, in addition to that, have more recently entertained the idea of forming a collection of ship models, to illustrate chiefly the rise and progress of steam shipping. They appeal to the shipbuilders of Port-Glasgow and Greenock to assist them. Mr. James Reid, of Port-Glasgow, has promised a duplicate model of the "Comet."

The trustees of the British Museum have during the year supplemented their valuable gift of July, 1887, by four volumes of catalogues.



It is now two years since the Committee decided to open the Museum free of charge every day. The result is very satisfactory, the attendance of visitors having increased by about fifty per cent. The Lecture Hall has during the past twelve months been more frequently let than formerly. The managers have, therefore, resolved to appoint an assistant to the Curator. Mr. Rennie has attended to his many duties with all his usual diligence, and the Committee recognise the spirited manner in which he has carried on the work connected with the Museum and Hall.

The financial statement showed that the income for the year was £288 13s., and the expenditure £279 3s. 3d., leaving a surplus of £9 9s. 9d. The debt for 1887 stood at £81 2s. 11d., but the surplus for the year has reduced it to £71 13s. 2d.

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# LIST OF MEMBERS FOR 1888-89.

## 1.—Honorary Members

(With Year of Election).

ARCHD. GEIKIE, LL.D., F.R.S.,	1863
JOHN SHAW,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
JAMES B. STEPHENS,	1864
EDWARD CAIRD, LL.D.,	1865
DAVID HILL,	1865
JAMES MILLER,	1873

## II.—Ordinary Members.

ADAMSON, WILLIAM.	Rockhill, 22 Margaret Street.
AITKEN, JAMES	78 Eldon Street.
AITKEN, W. N. A.	National Bank, Watt Place.
ALLAN, ALEXANDER, C.A.	67 Newton Street.
ALLAN, ROBERT	67 Newton Street.
ANDERSON, J. WALLACE	67 Union Street.
ANDERSON, JOHN	101 Brisbane Street.
AULD, WILLIAM	79 Newton Street.
BAIRD, ARTHUR R.	24 Brisbane Street.
BALLINGALL, PETER	Bank of Scotland, 47 Cathcart St.
BARCLAY, JOHN	Oakfield East, Ratho Street.
BARRIE, ANDREW D., Jun.	Glen Tower, 1 Wood Street.
BAXTER, WILLIAM B.	58 Eldon Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, GEO. H., B.L.	9 Forsyth Street.
BLACK, JOHN R., M.D., C.M.	6 George Square.
BLAIR, FRITZ R.	58 Eldon Street.
BROWN, NEIL	Dunclutha, 67 Esplanade.
CAIRD, COLIN S.	Dungourney, 13 Newark Street.
CAIRD, PATRICK T.	9 Newark Street.
CAIRD, ROBERT	5 Newark Street.
CALDER, MARCUS, M.D.	12 Union Street.
CARMICHAEL, ANDREW	34 Forsyth Street.
CARMICHAEL, J. D. M.	Milnwood, 93 Finnart Street.
CARMICHAEL, JOHN H.	76 Finnart Street.
CARMICHAEL, R. D.	Milnwood, 93 Finnart Street.
CARMICHAEL, THOMAS	35 Esplanade.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, CHAS. W.	53 Octavia Terrace.

COOK, ARCHIBALD . . .	23 Brisbane Street.
COWAN, CHARLES G. . .	Stoneleigh, 23 Newark Street.
CRAIG, JAMES . . .	30 Brisbane Street.
CRAWFORD, J. W. . .	Raillies, 93 Newton Street.
CRAWFORD, THOMAS . .	61 Brisbane Street.
CROCKATT, WILLIAM . .	87 Brisbane Street.
CURTIS, C. H. . . .	Ebberly, 27 Octavia Terrace.
CURTIS, W. H. . . .	27 Bentinck Street.
DAVIDSON, Rev. JAMES, M.A. .	85 Brisbane Street.
DENHOLM, JOHN . . .	42 Brisbane Street.
DENNISTON, J. S. . . .	19 Patrick Street.
DOUGLAS, JOHN . . .	Mount Stewart, 20 Margaret St.
DOUGLAS, T. N. . . .	155 Eldon Street.
DUNCAN, ROBERT . . .	Ardenclutha, Port-Glasgow.
DUNLOP, M. F. . . .	Glenview, 95 Newton Street.
ERSKINE, D. M. . . .	Finnart Grove.
ERSKINE, JOHN . . .	Finnart Grove.
EVANS, LEWIS . . . .	22 Eldon Street.
FERGUSON, A. D. . . .	47 Brougham Street.
FERGUSON, DANIEL . . .	23 Ardgowan Street (West).
FINGLAND, Rev. E. D., M.A. .	20 Union Street.
FINLAY, A. CAMPBELL . . .	62 Esplanade.
FINLAY, T. P. . . . .	61 Eldon Street.
FISHER, R. F. . . . .	40 Forsyth Street.
FLEMING, JAMES . . . .	37 Fox Street.
FLEMING, ROBERT . . . .	22 Robertson Street.
FULLARTON, HUGH . . . .	Glencairn, 103 Finnart Street.
FYFE, JOHN P. . . . .	60 Esplanade.
GARDINER, Lieut. CHAS. G. .	H.M.S. "Ajax."
GATHERER, PETER . . . .	Roseneath House, 97 Eldon St.
GLEN, JAMES . . . . .	Lincluden, 19 Octavia Terrace.
GRIER, THOMAS . . . . .	22 Brisbane Street.
GRIEVE, ROBERT . . . .	Glenholm, 7 Newark Street.
HAIR, WILLIAM . . . . .	33 Union Street.
HAMILTON, ROBERT . . . .	27 Finnart Street.
HARDIE, WILLIAM, C.A. . . .	55 Esplanade.
HART, J. CAMPBELL . . . .	Glengarden, Fox Street.
HASTIE, JOHN . . . . .	4 Robertson Street.
HASTIE, WILLIAM . . . .	28 Ardgowan Street (West).
HEYLAND, A. C. . . . .	Langford Lodge, 58 Finnart St.
HILL, J. H. . . . .	Annie Bank, 13 Eldon Street.
HILL, J. M. . . . .	52 Esplanade.
HOUSTON, G. W. . . . .	Woolton, 93 Eldon Street.
HOUSTON, R. H. . . . .	Birnam, 40 Newark Street.
HUTCHESON, WM. . . . .	8 Ardgowan Street (West).
HUTCHISON, WM. . . . .	24 Kelly Street.
HYNDMAN, JOHN G. . . . .	6 Fox Street.
JARVIE, JAMES A. . . . .	33 Esplanade.
KERR, ANDREW . . . . .	97 Brisbane Street.

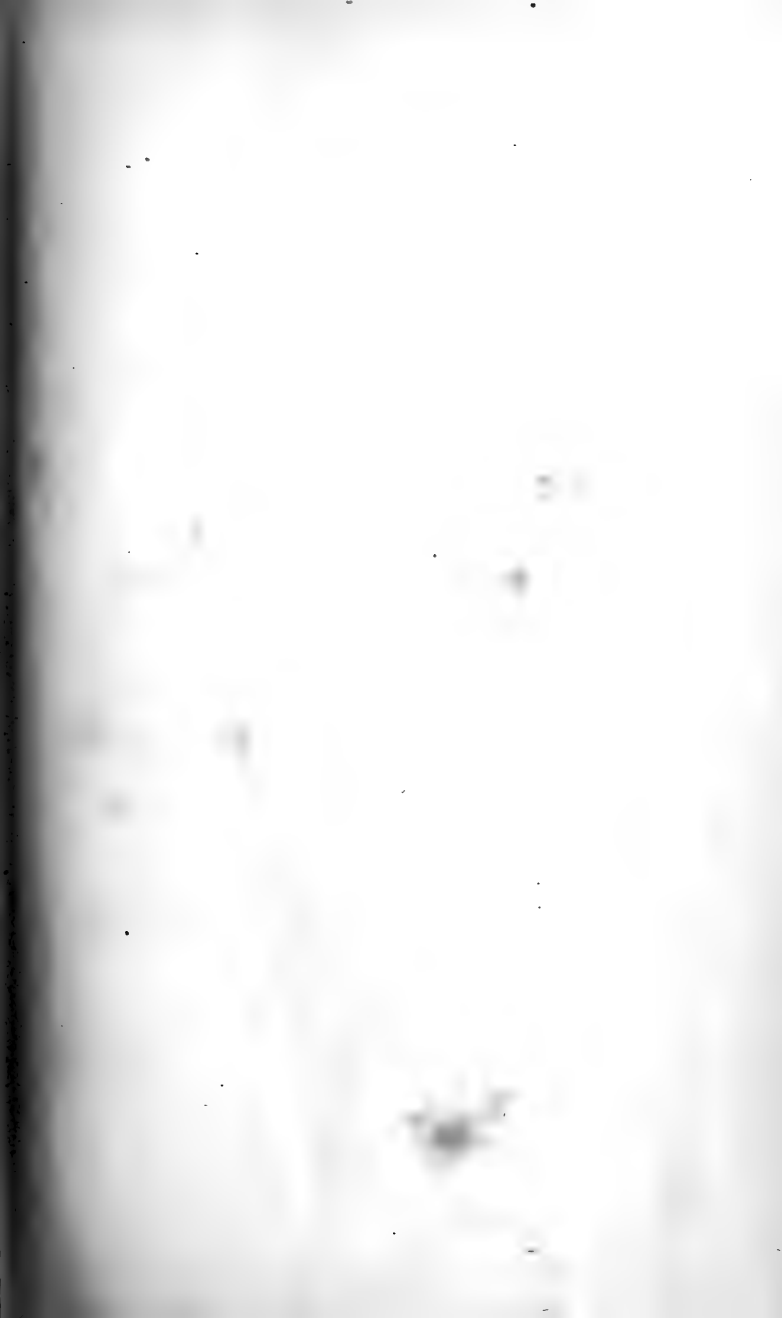
KERR, DANIEL . . . .	Heywood, 1 Margaret Street.
KERR, JOHN . . . .	Heathfield, 53 Eldon Street.
KERR, J. S. . . . .	Clydeview, 49 Margaret Street.
KERR, ROBERT . . . .	55 Newton Street.
LANG, JAMES . . . .	9 Finnart Terrace.
LANG, JOHN . . . .	40 Eldon Street.
LANG, JOHN . . . .	Eldon Villa, 63 Eldon Street.
LEITCH, ARTHUR O. . . .	Madeira Lodge, 8 Newark Street.
LETHAM, WILLIAM . . . .	63 Union Street.
LOVE, JOHN . . . .	Royal Bank, 38 Cathcart Street.
LUSK, H. D. . . . .	Rosebank, 25 Forsyth Street.
LYLE, ALEX. P. . . . .	Marshall, 105 Finnart Street.
LYLE, ROBERT P. . . . .	Ingleholme, 107 Finnart Street.
M'CALL, DAVID . . . .	Ardvourley, 66 Esplanade.
M'CLURE, JOHN . . . .	Mayfield, 66 Union Street.
M'CLURE, WILLIAM, Jun., M.A.	Mayfield, 66 Union Street.
MACDONALD, GEORGE . . . .	Erismere, 101 Finnart Street.
MACDOUGALL, G. R. . . .	22 Fox Street.
MACFARLAN, ALEX. . . .	75 Union Street.
MACINTYRE, JOHN D. . . .	22 Patrick Street.
MACKAY, EDWARD . . . .	8 George Square.
MACKELLAR, ALEX. . . .	45 Finnart Street.
MACKELLAR, PETER . . . .	45 Finnart Street.
M'KELLAR, ARCH. B. . . .	13 Lyle Street.
M'KELVIE, DAVID B. . . .	5 Robertson Street.
M'KIVER, JOHN . . . .	Eastwood, 39 Finnart Street.
MACLEAN, ALEX. S. . . .	31 Bank Street.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.	70 Union Street.
MACPHAIL, JOHN . . . .	5 Kelly Street.
MACPHERSON, Rev. J. F., M.A., B.D.	24 Forsyth Street.
MACPHERSON, ROBERT . . . .	56 Forsyth Street.
MACRAILD, D., L.F.P.S., F.R.C.S.	9 George Square.
MARSHALL, W. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MASON, ROBERT . . . .	Nellieslee, Newark Street.
MILLIGAN, WILLIAM . . . .	58 Forsyth Street.
MOON, FRANCIS, . . . .	38 Brisbane Street.
MORIES, ALEX. S. . . .	63 Finnart Street.
MORTON, ERNEST . . . .	30 Forsyth Street.
MORTON, JAMES . . . .	30 Forsyth Street.
MUIR, ROBERT . . . .	Ardmore, 38 Newark Street.
MUMME, CARL . . . .	1 Ardgowan Street (West).
MURRAY, GEORGE . . . .	Greenlaw, Port-Glasgow.
MURRAY, ROBERT S. . . .	3 Antigua Street.
NEILL, GEO. D. . . . .	26 Forsyth Street.
NEILL, JAMES D. . . . .	National Bank, Cathcart Street.
NEILL, JOHN, M.A. . . . .	Glenfield, 1 Bedford Street.
NICOL, DUNCAN . . . .	63 Eldon Street.
NICOL, JOHN S. . . . .	15 Forsyth Street.

NIVEN, G. W. . . . .	23 Newton Street.
PARK, W. U., M.A. . . . .	77 Newton Street.
PATERSON, JAMES . . . . .	Ashfield, 33 Finnart Street.
PATERSON, JAMES . . . . .	7 Belville Street.
PATERSON, R. R. . . . .	Elmhurst, 42 Newark Street.
PATTERSON, T. L., F.I.C., F.C.S.	Belmont, 46 Margaret Street.
PETTIGREW, JOHN . . . . .	29 Finnart Street.
PHILP, WILLIAM . . . . .	51 Union Street.
POLLOCK, MALCOLM . . . . .	6 Antigua Street.
PRIMROSE, Rev. ROBERT . . . . .	33 Union Street.
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . . .	21 Octavia Terrace.
RENNIE, ROBERT . . . . .	36 Union Street.
ROBINSON, ARCHIBALD, F.R.C.V.S.	20 Patrick Street.
RODGER, JOHN . . . . .	36 Forsyth Street.
ROSS, P. L. . . . .	3 Brougham Street.
ROSS, WILLIAM . . . . .	63 Esplanade.
ROWAN, GEORGE . . . . .	Cathcart Square House.
ROWAN, JOHN . . . . .	Clydeview, 55 Esplanade.
ROWAN, THOMAS B. . . . .	50 Eldon Street.
SCOTT, ALEXANDER . . . . .	Denniston, 41 Newark Street.
SCOTT, JOHN, C.B., F.R.S.E. . . . .	Seafeld House, 34 Brougham St.
SCOTT, JOSEPH D. . . . .	Beltrees, 58 Union Street.
SHANKLAND, ROBERT . . . . .	The Craigs, 21 Newark Street.
SHEARER, ALEX. . . . .	2 Glen Street.
SHEARER, ALEX., Jun. . . . .	2 Glen Street.
SHEARER, HUGH . . . . .	15 Fox Street.
SHEARER, R. B., M.A., LL.B. . . . .	Hartfell, 97 Finnart Street.
SHEARER, WILLIAM . . . . .	Hartfell, 97 Finnart Street.
SLATER, JAMES, B.A., F.E.I.S. . . . .	5 Robertson Street.
SMITH, Rev. J. B. . . . .	24 Margaret Street.
SOWTER, JOHN . . . . .	159 Eldon Street.
SPEIRS, WILLIAM . . . . .	4 Glen Street.
SPENCE, JAMES . . . . .	75 Newton Street.
SPROUL, ANDREW . . . . .	23 Lyle Street.
STARK, THOMAS . . . . .	17 Fox Street.
STEELE, ROBERT . . . . .	40 Finnart Street.
STEWART, ANDREW . . . . .	14 Newark Street.
STEWART, JAMES K. . . . .	54 Forsyth Street.
STEWART, SAMUEL . . . . .	Knocknair, Bogston.
STORY, W. G. . . . .	2 Grey Place.
SUTHERLAND, GEORGE . . . . .	27 Robertson Street.
SYMINGTON, Rev. ANDREW . . . . .	13 Ardgowan Street (West).
TAIT, ALEXANDER . . . . .	35 Brisbane Street.
TANNAHILL, JAMES . . . . .	9 Finnart Street.
TANNOCK, QUINTIN . . . . .	17 Ardgowan Street (West).
TAYLOR, H. J. . . . .	55 Forsyth Street.
THORBURN, JAS. G. . . . .	Woodburn, 4 Newark Street.
THORNE, ROBERT . . . . .	Cleavelands, 36 Newark Street.

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WALKER, HUGH W. . . .	Bellevue, 19 Eldon Street.
WALKER, JOHN . . . .	59 Newton Street.
WALKER, JOHN W. . . .	75 Union Street.
WALKER, LOUSON . . . .	Westhorpe, 44 Newark Street.
WALLACE, JAMES, M.A., M.D., L.R.C.S.E. . . . .	16 Union Street.
WALLACE, WM. K. . . . .	30 Ardgowan Street (West).
WALTON, J. D. . . . .	65 Union Street.
WATSON, ALEX. L. . . . .	21 Union Street.
WILSON, WM. A., M.D., C.M. .	Thorncliffe, 54 Brisbane Street.
YOUNGER, R. L. . . . .	28 Finnart Street.
YUILL, WALTER . . . . .	29 Regent Street.

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**PRESENTED**  
22 SEP 1938





# TWENTY-NINTH ANNUAL REPORT

OF THE

## Greenock

## Philosophical Society.

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SESSION 1889-90.

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GREENOCK:

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1890.

## Office-Bearers for Session 1890=91.

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President—LOUSON WALKER.

Vice-Presidents— { GEORGE MACDONALD.  
                              { ROBERT CAIRD.

Treasurer—ROBERT HAMILTON.

Secretary—JAMES SLATER, B.A.

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### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

JOHN HASTIE.

WM. U. PARK, M.A.

J. WALLACE, M.A., M.D.

ROBERT MUIR.

A. CAMPBELL FINLAY.

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ALEX. S. MORIES.

CARL MUMME.

AND. CARMICHAEL.

Rev. J. F. MACPHERSON, M.A., B.D.

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EDWARD MACKAY.

D. M. ERSKINE.

ANDREW KERR.

MARCUS CALDER, M.D.

JOHN R. BLACK, M.D.

T. L. PATTERSON, F.I.C., F.C.S.

M. F. DUNLOP.

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### Committee of Museum and Ball.

(Elected by Philosophical Society.)

A. CAMPBELL FINLAY, *Secretary*.

ROBERT MUIR.

Dr. CALDER, *Chairman*.

Dr. BLACK.

T. L. PATTERSON.

M. F. DUNLOP.

(Elected by Proprietors of Library.)

JOHN SCOTT, C.B.

ARCHD. SWORD.

LOUSON WALKER, *Treasurer*.

F. D. MORRISON.

WALTER W. B. RODGER.

JOHN RODGER.

# GREENOCK PHILOSOPHICAL SOCIETY.

## Twenty-Ninth Annual Report,

SESSION 1889-90.

*Read and approved at the Annual Meeting of the Society, held in the Museum Lecture Hall, on 13th March, 1890—A. S. Mories, Esq., President, in the Chair.*

### 1.—Statement of Accounts.

DR.

Balance from previous Session, . . . . .		£17 19 3
187 Members' Tickets, . . . . .	£98 3 6	
226 Ladies' and Youths' Tickets, . . . . .	39 11 0	
	<hr/>	137 14 6
Interest on Bank Account, . . . . .		0 5 0
		<hr/>
		£155 18 9

CR.

Lecturers' Fees, 1st Half, . . . . .	£35 14 0	
" 2nd Half, . . . . .	40 19 0	
	<hr/>	£76 13 0
Expenses connected with Lectures, . . . . .		2 3 6
Museum Committee; contribution towards lighting, heating, and cleaning Lecture Hall, . . . . .		10 0 0
Printing and Stationery, . . . . .	£11 4 0	
" Watt Lecture (Mr. Dyer's), . . . . .	5 18 6	
	<hr/>	17 2 6
Advertising, . . . . .		9 18 8
Collector's Commission and Hall-keeper's Fee, . . . . .		7 6 0
Postages, Telegrams, and Incidental Expenses of Secretary, . . . . .		4 16 7
Repairing Gas Pipes, . . . . .		0 14 6
Sundries, . . . . .		0 3 5
Balance; . . . . .		27 0 7
		<hr/>
		£155 18 9

E. & O. E.

(Signed) ROBERT HAMILTON, *Treasurer.*

GREENOCK, 12th March, 1890.—We have examined the above Account, compared the same with the Vouchers thereof, and found all correct, the balance at credit of the Society with the Commercial Bank of Scotland, Limited, being Twenty-Seven Pounds and Sevenpence sterling.

(Signed) LOUSON WALKER, { *Auditors.*  
M. F. DUNLOP, }

## 11.—Statement of Proceedings.

From the Treasurer's statement it will be observed that the number of Members during the past Session was 187, being two less than last year. Owing, however, to losses by death the actual number on the Roll at the close of the Session is 185. The number of tickets of admission disposed of to ladies and young persons was 226, an increase of seven on the previous year. It will also be seen that the finances are in a very satisfactory state, the balance at the credit of the Society being £27 os 7d.

The following Lectures were delivered during the past Session—  
1889-90:—

Nov. 1.—“*The Genius of Carlyle.*” By EDWARD CAIRD, Esq., M.A., LL.D., Professor of Moral Philosophy in the University of Glasgow.

„ 8.—“*The Great Cathedrals and their Builders.*” With Lime-Light Illustrations. By G. BALDWIN BROWN, Esq., M.A., Watson-Gordon Professor of Fine Art in the University of Edinburgh.

„ 15.—“*The New World of Pasteur.*” By CHARLES CAMERON, Esq., M.D., M.P.

„ 22.—“*Pithom and the Exodus.*” With Lime-Light Illustrations. By T. L. PATTERSON, Esq., F.I.C., F.C.S.

„ 29.—Two lectures on “*Teeth.*” Illustrated by Diagrams. By JOHN CLELAND, Esq., M.D., D.Sc., LL.D., F.R.S., Professor of Anatomy in the University of Glasgow.

Lecture I.—“*Nature and Structure of Teeth.*”

Dec. 6.—Lecture II.—“*Their Varieties and Growth.*”

„ 13.—*Dramatic Recital.* By SAMUEL BRANDRAM, Esq., M.A., Oxon., London.

- Jan. 17.—IN HONOUR OF THE ANNIVERSARY OF THE BIRTH OF JAMES WATT (January 19). "*Steel: Its Manufacture, Properties and Uses.*" Illustrated by Diagrams. By JAMES RILEY, Esq., General Manager to the Steel Company of Scotland; Bessemer Medallist, and Member of Council of the Iron and Steel Institute of Great Britain.
- „ 24—"*William Blake: Poet, Seer and Artist.*" With Lime-Light Illustrations. By H. BELLYSE BAILDON, Esq., M.A., University Extension Lecturer, Edinburgh.
- „ 31—"*The Rôle of Bacteria in Nature.*" With Lime-Light Illustrations. By G. SIMS WOODHEAD, Esq., M.D., F.R.C.P.Ed., F.R.S.E., Vice-President of the Royal Physical Society; Superintendent of the Research Laboratory of the Royal College of Physicians, Edinburgh.
- Feb. 7.—"*Magic: Black and White.*" By Rev. JAMES M. HODGSON, M.A., D.Sc., D.D., Professor of the Science of Religion, Lancashire Independent College, Manchester.
- „ 14—"*The late Emile Augier, Dramatist.*" By M. JULES A. L. KUNZ, Lecturer on French Literature, Heriot-Watt College, Edinburgh, and Queen Margaret College, Glasgow.
- „ 21—"*Kings and their Fools.*" By WILLMOTT DIXON, Esq., LL.B. of Trinity College, Cambridge, and of the Inner Temple, Barrister-at-Law.
- „ 28—"*Charles Dibdin and the Sea Songs of Britain.*" By JAMES C. DIBDIN, Esq., Edinburgh. With Musical Illustrations, sung by Mr. H. Seligmann.
- Mar. 7.—"*Australia and its Products.*" By Rev. JAMES MACGREGOR, D.D., Edinburgh.

As in the preceding year, a complete programme was issued at the beginning of the course of lectures. Three of the lecturers then announced were unable to fulfil their engagements. Their places were taken by Mr. Patterson, Mr. Baildon, and M. Kunz; and an additional lecture was delivered by Rev. Dr. Macgregor.

As agreed to at last Annual Meeting, Mr. Dyer's (Watt) Lecture has been printed and circulated among the members.

The Watt Anniversary Lecture this year was kindly undertaken by Mr. James Riley, General Manager to the Steel Company of Scotland, whose excellent lecture on the "Manufacture, Properties, and Uses of Steel," was much appreciated, and has attracted attention beyond the Society. The best thanks of the Society are due to Mr. Riley, not only for his admirable lecture, but also for his handsome gift of 250 printed copies of it for distribution to the members.

The Society is also greatly indebted to Dr. Cameron, M.P., for his highly interesting and instructive lecture; and to Mr. T. L. Patterson, Vice-President, who so ably filled one of the vacancies on very short notice.

At the close of last Session a communication was received from Dr. Hugh R. Mill, Edinburgh—Secretary of a Committee of the British Association, appointed to investigate the seasonal variation of temperature in lakes, rivers, and estuaries in the United Kingdom—asking the co-operation of the Society in arranging for observations in this district. As yet the Committee have only been able to arrange with Mr. James Wilson, C.E., Superintendent of Waterworks, who readily undertook to get a series of observations made at the Gryfe Reservoir.

During the Session the attention of the Committee was called to the advisability of taking steps with the view of furthering the erection of an international memorial to James Watt in his native town. On the recommendation of the Committee, the Society appointed a Special Committee to co-operate with the Local Committee, which had been appointed in 1886 to erect a monument to our illustrious townsman on the site of his birthplace. The local Committee cordially agreed to this co-operation, and, at a joint-meeting held on the 16th January, an Executive Committee of 30 members, selected from the Joint-Committee, was appointed to carry out the above-mentioned object. The heartiness with which the scheme has been inaugurated seems to warrant the hope that it may be carried to a successful issue. As has been already pointed out, the proposal does

not involve this Society in any financial responsibility. The Committee trust that their successors will give this scheme their hearty support, and report from time to time to the Society.

At the Statutory Meeting of the Society in December, the Annual Report by the Committee of the Museum and Lecture Hall was submitted. The vacancies then occurring in the Society's Representatives in the Museum Committee were filled up by the re-election of Mr. T. L. Patterson and Mr. M. F. Dunlop.

The Office-bearers, whose term now expires, are Mr. T. L. Patterson, Senior Vice-President; Mr. James Slater, Secretary; and Mr. Alex. P. Lyle, Mr. Wm. M'Clure, jun., Mr. George Macdonald, Mr. J. Campbell Hart, and Mr. James Aitken, Members of Committee. With the exception of the Secretary, and Mr. A. P. Lyle (who was appointed to a vacancy last year), they are severally ineligible to the same office for the following year.

The Committee regret that our worthy President has intimated his intention to retire from office at this meeting. The Presidentship is usually held for two years, but Mr. Mories has personal reasons for giving up office now, to which the Committee have felt constrained to give effect. He has acted as President with much acceptance; and the best thanks of the Society are due to him for his valuable services, not only as President, but as a member of Committee for some years.

The Proceedings of the following Societies were received during the year, viz.:—Canadian Institute, Toronto; Junior Engineering Society, London; Glasgow Philosophical Society.

## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 30th December, 1889.

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Owing to the increased attendance at the Museum since the charge for admission was abolished, along with the more frequent use of the Lecture Hall during the last two years, a hall-keeper has been appointed as assistant to the Curator.

During the last few years the natural history department has received considerable attention, and the larger part of the money which the Committee had at their disposal has been devoted to the purchase of British birds. In two years 202 specimens have been added, and the collection is now so large that only the rarest specimens are awaiting. These birds are named and classified according to the British Museum catalogue. In the Natural History Museum, London, a very beautiful system of showing birds in their natural surroundings is extensively adopted. In only one instance has such been attempted in this Museum. A small square case, at a corner of the gallery, contains a whin bush with meadow pipits' nest occupied by a young cuckoo, which is being fed by the pipits.

The collection of mammals in the Museum has been but little increased for several years, partly for want of case room. This has now been provided by the large case, just built by Mr. Rennie, occupying the whole west end of the gallery. It is hoped that very soon the British quadrupeds may be properly represented. Some years ago Sir Michael Shaw Stewart very kindly gave a fine roe deer. There is now room for the fallow deer and red deer, which could not have previously been properly accommodated.



This year the South Kensington authorities lent sufficient articles of varied interest to fill five cases. From the same Museum we have also on loan the four large cartoons, which are hung in the Lecture Hall.

The small water-colour pictures, illustrative of the earliest steam navigation, which were on loan last year, have been photographed by Mr. T. L. Patterson. An engraving of Watt was kindly presented by Messrs. Laurie & Fleming. Mr. G. R. Macdougall has again brought from New York a number of most beautiful skins of birds which are native to North America as well as to Britain. Mr. John Stewart presented several specimens, including the cuckoo and meadow pipit group.

The financial statement showed the income for the year to be £335 9s., and the total expenditure £287 3s. 5d., leaving a surplus of £48 5s. 7d. The debt for 1888 stood at £71 13s. 2d., but the surplus this year will reduce it to £23 7s. 7d.

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# LIST OF MEMBERS FOR 1889-90.

## 1.—Honorary Members.

(With Year of Election.)

ARCHD. GEIKIE, LL.D., F.R.S.,	1863
JOHN SHAW,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
JAMES B. STEPHENS,	1864
EDWARD CAIRD, M.A., LL.D.,	1865
DAVID HILL,	1865
JAMES MILLER,	1873

## II.—Ordinary Members.

ADAMSON, WILLIAM.	Rockhill, 22 Margaret Street.
AITKEN, JAMES	78 Eldon Street.
AITKEN, W. N. A.	National Bank, Watt Place.
ALLAN, ALEXANDER, C.A.	67 Newton Street.
ALLAN, ROBERT	67 Newton Street.
ALSTON, R. L.	22 Forsyth Street.
ANDERSON, J. WALLACE	80 Finnart Street.
AULD, WILLIAM	79 Newton Street.
BAIRD, ARTHUR R.	24 Brisbane Street.
BALLINGALL, PETER.	Bank of Scotland, 47 Cathcart St.
BARCLAY, JOHN	Oakfield East, Ratho Street.
BAXTER, WILLIAM B.	58 Eldon Street.
BISSETT, JOHN.	75 Newton Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, JOHN R., M.D., C.M.	6 George Square.
BROWN, WILLIAM A.	119 Eldon Street.
BRYMNER, JOHN	105 Eldon Street.
CAIRD, COLIN S.	Dungourney, 13 Newark Street.
CAIRD, PATRICK T.	9 Newark Street.
CAIRD, ROBERT	5 Newark Street.
CALDER, MARCUS, M.D.,	12 Union Street.
CAMPBELL, DUNCAN.	21 Brisbane Street.
CAMPBELL, JOHN	5 Trafalgar Street.
CARMICHAEL, ANDREW	34 Forsyth Street.
CARMICHAEL, J. D. M.	Milnwood, 93 Finnart Street.
CARMICHAEL, JOHN H.	76 Finnart Street.
CARMICHAEL, R. D.	Milnwood, 93 Finnart Street.
CARMICHAEL, THOMAS	35 Esplanade.

CLERK, DUNCAN . . . . .	25 Octavia Terrace.
CLINK, CHARLES W. . . . .	7 Bentinck Street.
COOK, ARCHIBALD . . . . .	23 Brisbane Street.
CRAWFORD, JAMES . . . . .	2 Wellington Street.
CRAWFORD, J. W. . . . .	Raillies, 93 Newton Street.
CRAWFORD, THOMAS . . . . .	61 Brisbane Street.
CURTIS, C. H. . . . .	Ebberly, 27 Octavia Terrace.
CURTIS, W. H. . . . .	27 Bentinck Street.
DENHOLM, JOHN . . . . .	42 Brisbane Street.
DENNISTON, J. S. . . . .	19 Patrick Street.
DICK, GEORGE . . . . .	3 Brougham Street.
DOUGLAS, T. N. . . . .	155 Eldon Street.
DUNLOP, M. F. . . . .	Glenview, 95 Newton Street.
ERSKINE, D. M. . . . .	Finnart Grove.
ERSKINE, JOHN . . . . .	Finnart Grove.
FERGUSON, A. D. . . . .	53 Union Street.
FINGLAND, Rev. E. D., M.A. . . . .	20 Union Street.
FINLAY, A. CAMPBELL . . . . .	62 Esplanade.
FINLAY, T. P. . . . .	61 Eldon Street.
FISHER, R. F. . . . .	40 Forsyth Street.
FLEMING, JAMES . . . . .	37 Fox Street.
FLEMING, ROBERT . . . . .	22 Robertson Street.
FRASER, HUGH, L.D.S. . . . .	29 Union Street.
FYFE, JOHN P. . . . .	60 Esplanade.
GILLORAN, JAMES L. . . . .	33 Kelly Street.
GLEN, JAMES . . . . .	Lincluden, 19 Octavia Terrace.
GRIER, THOMAS . . . . .	22 Brisbane Street.
GRIEVE, ROBERT . . . . .	Glenholm, 7 Newark Street.
HAIR, WILLIAM . . . . .	33 Union Street.
HAMILTON, ROBERT . . . . .	27 Finnart Street.
HARDIE, WILLIAM, C.A. . . . .	Fairmount, 40 Esplanade.
HART, J. CAMPBELL . . . . .	Glengarden, Fox Street.
HASTIE, JOHN . . . . .	44 Finnart Street.
HASTIE, WILLIAM . . . . .	78 Finnart Street.
HERBERT, REGINALD . . . . .	Newark Lodge, 28 Newark Street.
HEYLAND, A. C. . . . .	Langford Lodge, 58 Finnart St.
HILL, J. H. . . . .	53 Brougham Street.
HILL, J. M. . . . .	52 Esplanade.
HOUSTON, G. W. . . . .	Woolton, 93 Eldon Street.
HOUSTON, R. H. . . . .	Birnam, 40 Newark Street.
HUTCHESON, WM. . . . .	8 Ardgowan Street (West).
HUTCHISON, WM. . . . .	24 Kelly Street.
HYNDMAN, JOHN G. . . . .	6 Fox Street.
JOHNSTONE, Rev. T. F., M.A. . . . .	34 Eldon Street.
KERR, ANDREW . . . . .	97 Brisbane Street.
KERR, DANIEL . . . . .	Heywood, 1 Margaret Street.
KERR, JOHN . . . . .	Heathfield, 53 Eldon Street.
KERR, J. S. . . . .	Clydeview, 49 Margaret Street.

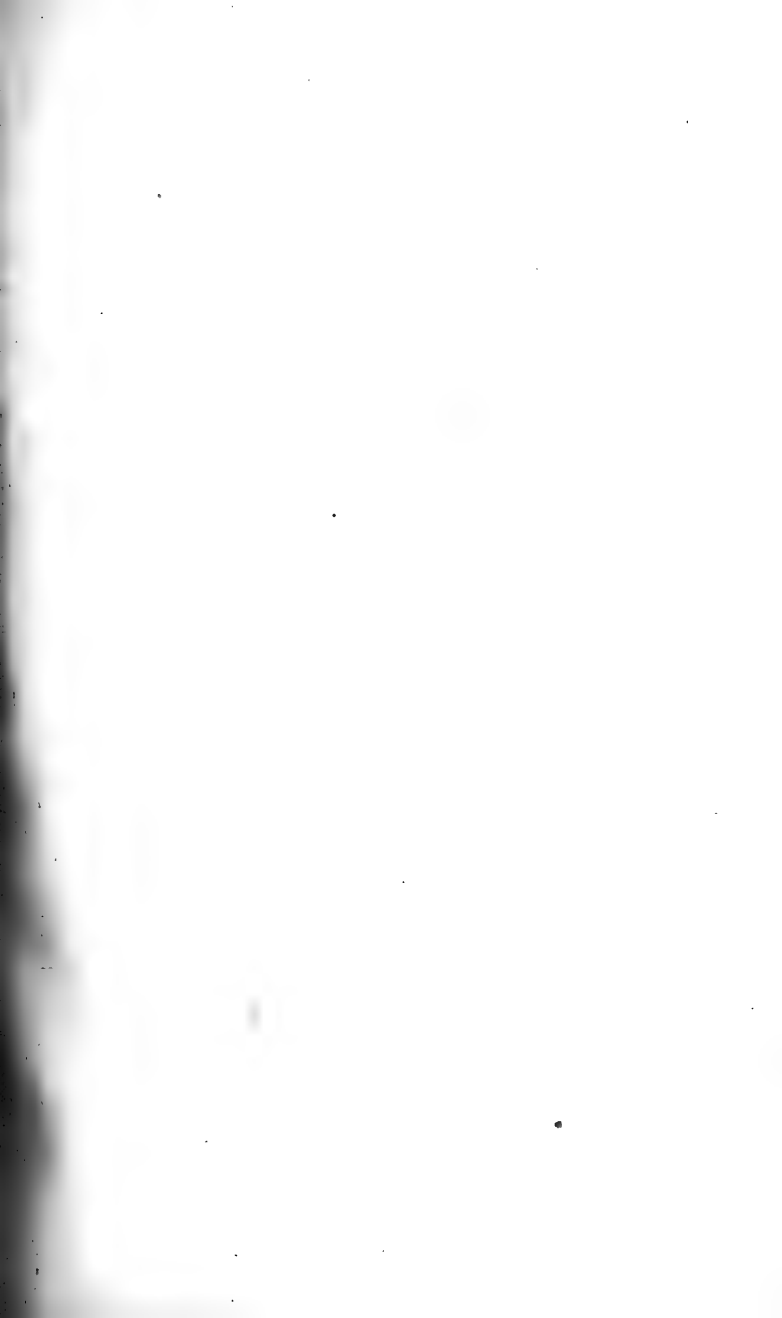
KERR, ROBERT	. . .	55 Newton Street.
LANG, JAMES	. . .	9 Finnart Terrace.
LANG, JAMES, Jun.	. . .	26 Mearns Street.
LANG, JOHN	. . .	40 Eldon Street.
LANG, JOHN	. . .	Eldon Villa, 65 Eldon Street.
LEDINGHAM, ALEX.	. . .	3 Shaw Place.
LEITCH, ARTHUR O.	. . .	Madeira Lodge, 8 Newark Street.
LETHAM, WILLIAM	. . .	63 Union Street.
LOVE, JOHN	. . .	Royal Bank, 38 Cathcart Street.
LOVE, ROBERT	. . .	28 Brisbane Street.
LUSK, H. D.	. . .	Rosebank, 25 Forsyth Street.
LYLE, ALEX. P.	. . .	Marshall, 105 Finnart Street.
LYLE, ROBERT P.	. . .	Ingleholme, 107 Finnart Street.
M'CLURE, JOHN	. . .	Mayfield, 66 Union Street.
M'CLURE, WILLIAM, Jun., M.A.		Mayfield, 66 Union Street.
MACDONALD, GEORGE	. . .	Erlsmere, 101 Finnart Street.
MACDOUGALL, DUGALD	. . .	Burnlea, 3 Newark Street.
MACDOUGALL, G. R.	. . .	22 Fox Street.
MACFARLAN, ALEX.	. . .	75 Union Street.
MACINTYRE, JOHN D.	. . .	22 Patrick Street.
MACKAY, EDWARD	. . .	8 George Square.
MACKELLAR, PETER		45 Finnart Street.
M'KELLAR, ARCH. B.	. . .	13 Lyle Street.
M'KELVIE, DAVID B.	. . .	5 Robertson Street.
M'KIVER, JOHN	. . .	Eastwood, 39 Finnart Street.
MACLEAN, ALEX. S.	. . .	31 Bank Street.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.		70 Union Street.
MACPHAIL, JOHN	. . .	5 Kelly Street.
MACPHERSON, Rev. J.F., M.A., B.D.		24 Forsyth Street.
MACPHERSON, ROBERT	. . .	56 Forsyth Street.
MARSHALL, W.J., M.D., L.R.C.S.E.		8 Ardgowan Square.
MASON, ROBERT	. . .	Nellieslee, Newark Street.
MILLIGAN, WILLIAM	. . .	58 Forsyth Street.
MOON, FRANCIS	. . .	38 Brisbane Street.
MORIES, ALEX. S.	. . .	63 Finnart Street.
MORTON, ROBERT	. . .	30 Forsyth Street.
MORTON, JAMES		30 Forsyth Street.
MUIR, ROBERT	. . .	Ardmore, 38 Newark Street.
MUMME, CARL	. . .	1 Ardgowan Street (West).
MURDOCH, DAVID R.	. . .	Lochwards, 7 Octavia Terrace.
MURRAY, GEORGE	. . .	Greenlaw, Port-Glasgow.
MURRAY, ROBERT S.	. . .	3 Antigua Street.
NEILL, GEO. D.	. . .	26 Forsyth Street.
NEILL, JAMES D.	. . .	National Bank, Cathcart Street.
NEILL, JOHN, M.A.	. . .	Glenfield, 1 Bedford Street.
NEILL, WM. J.	. . .	Lawthorn, 13 Octavia Terrace.
NICOL, DUNCAN	. . .	2 Octavia Terrace.

NICOL, JOHN S.	15 Forsyth Street.
NIVEN, G. W.	23 Newton Street.
PARK, W. U., M.A.	77 Newton Street.
PATERSON, JAMES	Ashfield, 33 Finnart Street.
PATERSON, JAMES	7 Belville Street.
PATERSON, R. R.	Elmhurst, 42 Newark Street.
PATON, JAMES, M.D., C.M.	19 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	Belmont, 46 Margaret Street.
PETTIGREW, JOHN	29 Finnart Street.
PHILIP, THOMAS, M.D., C.M.	22 Union Street.
PRENTICE, A. R.	Willow Park, 41 Ardgowan St. (W.)
PRENTICE, J. R.	Willow Park, 41 Ardgowan St. (W.)
PURVIS, F. P.	Don Villa, Cardwell Bay.
RAMAGE, WM.	10 Manor Crescent, Gourrock.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RENNIE, ROBERT	36 Union Street.
RODGER, JOHN	36 Forsyth Street.
ROSS, P. L.	25 West Blackhall Street.
ROSS, WILLIAM	63 Esplanade.
ROUGVIE, JAMES	17 Ardgowan Square.
ROWAN, JOHN	Clydevue, 55 Esplanade.
ROWAN, THOMAS B.	50 Eldon Street.
SCOTT, ALEXANDER	Denniston, 41 Newark Street.
SCOTT, JOHN, C.B., F.R.S.E.	Seafeld House, 34 Brougham St.
SCOTT, JOSEPH D.	Beltrees, 58 Union Street.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ALEX., Jun.	2 Glen Street.
SHEARER, HUGH	15 Fox Street.
SHEARER, R. B., M.A., LL.B.	Hartfell, 97 Finnart Street.
SLATER, JAMES, B.A., F.E.I.S.	5 Robertson Street.
SMITH, Rev. J. B.	24 Margaret Street.
SOWTER, JOHN	149 Eldon Street.
SPEIRS, WILLIAM	4 Glen Street.
SPROUL, ANDREW, C.E.	24 Bank Street.
STARK, THOMAS	17 Fox Street.
STEELE, ROBERT	40 Finnart Street.
STERICKER, A. C.	32 Brisbane Street.
STEWART, ANDREW	14 Newark Street.
STEWART, JAMES B.	28 Esplanade.
STEWART, JAMES K.	54 Forsyth Street.
STEWART, SAMUEL	Knocknair, Bogston.
SUTHERLAND, GEORGE	27 Robertson Street.
TAIT, ALEXANDER	35 Brisbane Street.
TANNAHILL, JAMES	9 Finnart Street.
TANNOCK, QUINTIN	17 Ardgowan Street (West).
THORBURN, JAS. G.	Woodburn, 4 Newark Street.
THORNE, ROBERT	Clevelands, 36 Newark Street.

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THORNE, THOMAS M.	. . .	Woodward, 51 Octavia Terrace.
TREW, Rev. JOHN, B.A.	. . .	61 Union Street.
TYRE, JAMES	. . .	81 Holmscroft Street.
WALKER, HUGH W.	. . .	Bellevue, 19 Eldon Street.
WALKER, JOHN	. . .	59 Newton Street.
WALKER, JOHN W.	. . .	53 Forsyth Street.
WALKER, LOUSON	. . .	Westhorpe, 44 Newark Street.
WALLACE, JAMES, M.A., M.D., L.R.C.S.E.	. . .	16 Union Street.
WALLACE, WM. K.	. . .	30 Ardgowan Street (West).
WALTON, J. D.	. . .	65 Union Street.
WILSON, WM. A., M.D., C.M.	. . .	Thorncliffe, 54 Brisbane Street.
YOUNG, JOHN S.	. . .	31 Esplanade.
YOUNGER, R. L.	. . .	28 Finnart Street.
YUILL, WALTER	. . .	29 Regent Street.

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PRESENTED

22 SEP 1938







# THIRTIETH ANNUAL REPORT

OF THE

## Greenock

## Philosophical Society.

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SESSION 1890-91.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1891.



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1891.

## Office-Bearers for Session 1891=92.

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President—LOUSON WALKER, C.A.

Vice-Presidents— { ROBERT CAIRD.  
ROBERT MUIR.

Treasurer—ANDREW CARMICHAEL.

Secretary—GEORGE MURRAY.

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### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

JOHN F. RANKIN.

ALEX. S. MORIES.

CARL MUMME.

J. CAMPBELL HART.

Rev. J. F. MACPHERSON, M.A., B.D.

A. O. LEITCH.

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EDWARD MACKAY.

D. M. ERSKINE.

ANDREW KERR.

F. P. PURVIS.

ROBERT HAMILTON.

JOHN BISSET.

A. R. PRENTICE.

JAMES SLATER, B.A.

MARCUS CALDER, M.D.

JOHN R. BLACK, M.D.

T. L. PATTERSON, F.I.C., F.C.S.

M. F. DUNLOP.

A. CAMPBELL FINLAY.

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### Committee of Museum and Hall.

(Elected by Philosophical Society.)

Dr. CALDER.

Dr. BLACK.

T. L. PATTERSON.

M. F. DUNLOP.

A. CAMPBELL FINLAY, *Secretary*.

ROBERT MUIR.

(Elected by Proprietors of Library.)

LOUSON WALKER, *Treasurer*.

F. D. MORRISON.

WALTER W. B. RODGER.

JOHN RODGER, *Chairman*.

JOHN SCOTT, C.B.

HUGH W. WALKER.

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*Curator of Museum*—THOMAS RENNIE.

# GREENOCK PHILOSOPHICAL SOCIETY.

## Thirtieth Annual Report,

SESSION 1890-91.

*Read and approved at the Annual Meeting of the Society, held in the Society's Hall, Watt Institution, on 6th March, 1891.—Louson Walker, Esq., President, in the Chair.*

### 1.—Statement of Accounts.

#### DR.

Balance from previous Session,				£27	0	7
192 Members' Tickets (191 @ 10/6; 1 @ 5/),	£100	10	6			
212 Ladies' and Youths' Tickets,	37	2	0			
				137	12	6
Interest on Bank Account,				0	8	0
				£165	1	1

#### CR.

Lecturers' Fees, 1st Half of Session,	.	.	.	£46	4	0		
" 2nd Half "	.	.	.	27	18	0		
							£74	2
Expenses connected with Lectures,	.	.	.				9	15
Museum Committee; contribution towards lighting, heating, and								0
cleaning Lecture Hall,	.	.	.	.	.	.	10	0
Printing and Stationery,	.	.	.	.	.	.	14	11
Advertising, .	.	.	.	.	.	.	8	18
Collector's Commission and Hall-keeper's Allowance,	.	.	.	.	.	.	6	16
Postages, Telegrams, and Incidental Expenses of Secretary,	.	.	.	.	.	.	3	16
Gasfitting and Sundries,	.	.	.	.	.	.	1	8
Balance,	.	.	.	.	.	.	35	12
							£165	1

E. & O. E.

(Signed) ROBERT HAMILTON, *Treasurer.*

GREENOCK, 5th March, 1891.—We have examined the above Accounts, examined the Vouchers, and found all to be correct. The Balance in Bank—Thirty-Five Pounds Twelve Shillings and Ninepence.

(Signed) C. MUMME, }  
A. C. FINLAY, } *Auditors.*

## II.—Statement of Proceedings.

In submitting their report for the past Session, the Committee have to congratulate the Members on the continued prosperity of the Society—alike in respect to the membership, the finances, the high standard of the papers read to the Society, and the good attendances at the lectures. At the close of last Session the number of Members was 185; since then 34 have joined the Society, making in all 219. Of these, 3 have died, 2 left town, and 22 have resigned—leaving 192 at present on the Roll. The number of tickets issued to the Members for ladies and youths was 212, against 226 in the previous year. The Treasurer's statement shows that the balance at credit of the Society now is £35 12s. 9d., as compared with £27 os. 7d. last year.

The following Lectures were delivered during the past Session—1890-91 :—

- Oct. 31.—“*Landmarks of Scott.*” By WALLACE BRUCE, Esq., U.S. Consul, Edinburgh.
- Nov. 7.—“*Our Alphabet: Its Origin and Folk-lore.*” By WILLIAM JOLLY, Esq., F.G.S., F.R.S.E., H.M. Inspector of Schools.
- „ 14.—“*Electricity and its Practical Application.*” Illustrated by Numerous Experiments and Lantern Views. By ARCHIBALD DENNY, Esq., M.I.N.A., &c., Dumbarton.
- „ 21.—“*German Culture.*” By SIDNEY WHITMAN, Esq., London, Author of “Imperial Germany.”
- „ 28.—“*Count Tolstoi as a Novelist and Social Reformer.*” By M. SERGIUS STEPNIAK, Author of “The Career of a Nihilist,” “Underground Russia,” &c.
- Dec. 5.—“*Dramatic Recital.*” By SAMUEL BRANDRAM, Esq., M.A., Oxon., London.
- „ 12.—“*Scalds and Saga Men: a Chapter in the Wonderful Literature of Iceland.*” By DAVID ROSS, Esq., M.A., B.Sc., LL.D., Principal E.C. Training College, Glasgow.
- „ 19.—“*The Origin of Portrait Sculpture, and the History of the Ka.*” With Lime-light Illustrations. By Miss AMELIA B. EDWARDS, L.H.D., Ph.D., LL.D., Vice-President of the Egypt Exploration Fund.

- Jan. 23.—IN HONOUR OF THE ANNIVERSARY OF THE BIRTH OF JAMES WATT (January 19). "*The Forth Bridge.*" With Lime-light Illustrations. By ARCHIBALD BARR, Esq., D.Sc., M.Inst.C.E., Professor of Civil Engineering and Mechanics, Glasgow University.
- " 30.—"*The Glories of a Beam of Light.*" Illustrated by Experiments and the Oxy-hydrogen Lantern. By ERIC S. BRUCE, Esq., M.A., Oxon., F.R.Met.Soc., &c., London.
- Feb. 6.—"*The Circulation of the Blood: a Chapter in the History of Physiology.*" With Experimental Illustrations. By JOHN G. M'KENDRICK, Esq., M.D., LL.D., F.R.S., &c., Professor of the Institutes of Medicine, Glasgow University.
- " 13.—"*Modern Photography.*" With Lime-light and other Illustrations. By EDMUND J. MILLS, Esq., D.Sc., F.R.S. Professor of Technical Chemistry, Glasgow and West of Scotland Technical College.
- " 20.—"*The Bloody Mackenzie.*" By A. TAYLOR INNES, Esq., Advocate, Edinburgh.
- " 27.—"*Metal Engraving: Its Technical Processes and Artistic Results.*" With Lime-light and other Illustrations from the Works of the most celebrated Line-Engravers, Mezzotinters, Etchers, &c. By JOHN M. GRAY, Esq., F.S.A.Scot., Curator, Scottish National Portrait Gallery, Edinburgh.

With one exception, the programme issued at the beginning of the course was carried through—the exception being the Musical Lecture, which Mr. Carl Armbruster was unfortunately unable to deliver. The Committee endeavoured to obtain a first-class lecturer on music, but owing to the shortness of the notice they were unsuccessful. The thanks of the Society are due to Dr. Ross for so kindly coming to the assistance of the Committee, and for his excellent Lecture.

The Society is also greatly indebted to Mr. Archibald Denny, Dumbarton, for his admirable Lecture on "Electricity and its Practical Application," which he illustrated by numerous beautiful experiments and lantern views: he also had the Hall brilliantly lighted up by large sunbeam incandescent lamps. Through the kind permission of Messrs. John Hastie & Co., a complete electric installation was fitted up, and the current transmitted from their Works to the Hall by cables erected by the

National Telephone Company. This is not the first time the Messrs. Hastie have laid the Society under obligation by supplying power for a similar purpose. Thanks are also due to the Managers of Union Street United Presbyterian Church and Messrs. Mac-Symon & Company, for permitting the wires to be attached to the roofs of their buildings; and to the National Telephone Company for the efficient manner in which the cables were fitted up.

For the Watt Anniversary Lecture the Committee were fortunate in securing Professor Archibald Barr, D.Sc., of Glasgow University, to whom the warmest acknowledgments are due for his exceedingly interesting and instructive lecture on the "Forth Bridge." The successive stages in the construction of this, the greatest engineering work of the age, were well illustrated by numerous lantern slides.

During this Session, as on many previous occasions, Mr. Andrew Kerr and Mr. T. L. Patterson have very kindly given their services and lanterns, where lime-light illustrations were required.

A general desire having been expressed that the Gilchrist Educational Trust should be approached for another course of Science Lectures for the people, the Committee are glad to report that an application sent in early in the Session was favourably entertained, and a course of six lectures granted, the dates fixed being January 13, 17; February 10, 24; and March 10 and 24—the lecturers being Sir Robert S. Ball, LL.D., F.R.S.; Professor M'Intosh, M.D., F.R.S.; Mr. A. P. Laurie, M.A., F.R.S.E.; Rev. Dr. Dallinger, F.R.S.; Dr. Drinkwater, F.C.S.; and Dr. Andrew Wilson, F.R.S.E. With a view to the successful carrying out of these lectures a special sub-committee was appointed, with the President, Mr. Louison Walker, as chairman; Mr. Robert Hamilton as treasurer, and Mr. George Murray as local secretary. This Committee, as was done on the former occasion, secured the co-operation of the Directors of the Mechanics' Institution, and of representative men connected with the various public works in town. Four of the Lectures have already been delivered in the Town Hall, and the magnificent audiences—close on 3,000—which have attended, show the success with which the Special Committee have done their work. The full report by this Committee will be submitted on the completion of the course.



The Executive Committee of the James Watt Memorial, referred to in last Annual Report, have had under consideration proposals with regard to the form which the Memorial should assume, and a scheme has been drafted ; and it is understood they are waiting a favourable opportunity of securing distinguished patronage before taking further proceedings.

At the statutory meeting of the Society in December, the Annual Report by the Committee of the Museum and Lecture Hall was submitted, a summary of which is appended. The vacancies then occurring in the Society's representatives in that Committee were filled up by the re-election of Mr. A. C. Finlay and Mr. Robert Muir.

The Office-bearers, who now retire, are Mr. George Macdonald, Senior Vice-President ; and Mr. John Hastie, Mr. Wm. U. Park, M.A., Dr. Wallace, Mr. Robert Muir, and Mr. A. C. Finlay, Members of Committee, all of whom are ineligible for re-election to the same office for twelve months.

The Treasurer, Mr. Robert Hamilton, having served for five years, and the Secretary, Mr. James Slater, who has served for four years, have intimated their intention of retiring from office at this Meeting. The Committee desire to place on record their very high appreciation of the valuable services which these gentlemen have rendered to the Society, and their regret that other engagements prevent them continuing to hold their respective offices.

The Committee regret to record the deaths of two Honorary Members, Mr. David Hill and Mr. John Shaw : the former having died in London some time ago, and the latter at Cape Town last June.

The Proceedings of the following Societies were received during the year, viz. :—Canadian Institute, Toronto ; Junior Engineering Society, London ; Glasgow Philosophical Society.

## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1890.



During the year the Committee have, to the full extent of the funds at their disposal, added to the number of specimens. Money spent in this way has been almost entirely on birds, some expenditure has also been made for furniture and fittings.

The collection of British birds again calls for special notice, as it is now almost complete, comprising as it does 365 specimens. In every case there has been placed a printed card with the names of all the birds and the order, and stating under what conditions they are called British—whether indigenous, introduced, migratory, or as occasional visitors. In this way a great deal of ornithological information is afforded to any one who consults these cards, labels, and specimens.

In a small separate case there have been mounted 33 American Warblers, the handsome gift of Mr. W. E. D. Scott, ornithologist, of New York, received through the good offices of Mr. George R. Macdougall. Full printed descriptions are attached to each.

All the arranging, extracting of information, and printing, is the work of the Curator.

The collection of British Mammals has been considerably increased during the year.

Notable among the gifts received at the Museum is a large granite slab engraved with Egyptian figures. This was forwarded by the Committee of the Egypt Exploration Fund, and came here owing to the generosity of Mr. John Scott, C.B. It is fully described in an article written by Mr. T. L. Patterson, a copy of which is placed for reference beside the stone.

The Committee would like to add largely to the collection of ship models, and invite the loan or the present of such. They have to thank the sons of the late Mr. Robert Steele for lending the builders' models of several of the early paddle steamers of the Cunard fleet, and of China clipper sailing ships.

The authorities of South Kensington Museum have again re-filled their four cases with interesting objects. One of the cases is now devoted to boat models: in other cases are specimens of Eastern artistic workmanship.

Mr. Rennie, curator, has kindly presented to the Museum a very interesting piece of his own handiwork—a violin in white wood. Along with it is exhibited a drawing with names of parts, and full details of all measurements.

The Curator's report showed that a number of resident townsmen occasionally send gifts to the Museum, and that several gentlemen after leaving Greenock still interest themselves in the Museum, notably the former secretary, Mr. George R. Macdougall.

The number of visitors during the year amounted to about 20,000.

The financial statement showed that the income for the year was £309 9s. 6d., and the expenditure £345 3s. The debt at 1889 stood at £23 7s. 7d. This, added to the present year's deficit, makes a total of £59 1s. 1d., which is altogether accounted for by the purchase of fresh specimens for the Museum.

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# LIST OF MEMBERS FOR 1890-91.

## 1.—Honorary Members.

(With Year of Election.)

ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
JAMES B. STEPHENS,	1864
EDWARD CAIRD, M.A., LL.D.,	1865
JAMES MILLER,	1873

## II.—Ordinary Members.

ADAM, ROBERT G.	Hollybank, Madeira Street.
ADAM, WILLIAM	11 Margaret Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AITKEN, JAMES	78 Eldon Street.
AITKEN, W. N. A.	National Bank, Watt Place.
ALLAN, ALEXANDER, C.A.	67 Newton Street.
ALLAN, ROBERT	67 Newton Street.
ALSTON, R. L.	22 Forsyth Street.
ANDERSON, J. WALLACE	67 Union Street.
ANDREW, WILLIAM	42 Brisbane Street.
AULD, WILLIAM	79 Newton Street.
BAILEY, J. W.	52 Forsyth Street.
BAIRD, ARTHUR R.	24 Brisbane Street.
BALLINGALL, PETER	Bank of Scotland, 47 Cathcart St.
BARCLAY, JOHN	Oakfield East, Ratho Street.
BAXTER, WILLIAM B.	58 Eldon Street.
BISSET, JOHN	Barima Bank, 39 Fox Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, JOHN	8 Eldon Street.
BLACK, JOHN R., M.D., C.M.	6 George Square.
BROWN, WILLIAM A.	119 Eldon Street.
BRYMNER, JOHN	105 Eldon Street.
BRYSON, WILLIAM K.	159 Eldon Street.
BUCHANAN, ROBERT	35 Brisbane Street.
CAIRD, COLIN S.	Dungourney, 13 Newark Street.
CAIRD, PATRICK T.	9 Newark Street.
CAIRD, ROBERT	5 Newark Street.
CALDER, MARCUS, M.D.	12 Union Street.
CAMPBELL, DUNCAN	7 Grey Place.
CARMICHAEL, ANDREW	34 Forsyth Street.

CARMICHAEL, J. D. M.	Milnwood, 93 Finnart Street.
CARMICHAEL, JOHN H.	76 Finnart Street.
CARMICHAEL, R. D.	Milnwood, 93 Finnart Street.
CARMICHAEL, THOMAS	35 Esplanade.
CLARK, REV. HENRY W.	49 Brisbane Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, CHARLES W.	7 Bentinck Street.
COOK, ARCHIBALD	23 Brisbane Street.
CRAWFORD, JAMES	2 Wellington Street.
CRAWFORD, J. W.	Raillies, 93 Newton Street.
CRAWFORD, THOMAS	61 Brisbane Street.
CURTIS, C. H.	Ebberly, 27 Octavia Terrace.
CURTIS, W. H.	27 Bentinck Street.
DENHOLM, JOHN	42 Brisbane Street.
DENNISTON, J. S.	19 Patrick Street.
DICK, GEORGE	3 Brougham Street.
DOTHIE, REV. ELVERY, B.A.	72 Eldon Street.
DOUGLAS, T. N.	155 Eldon Street.
DUNLOP, M. F.	Glenview, 95 Newton Street.
ERSKINE, D. M.	Finnart Grove.
FERGUSON, A. D.	53 Union Street.
FINGLAND, REV. E. D., M.A.	20 Union Street.
FINLAY, A. CAMPBELL	62 Esplanade.
FINLAY, T. P.	61 Eldon Street.
FISHER, R. F.	40 Forsyth Street.
FLEMING, JAMES	37 Fox Street.
FOWLING, CHARLES R. H.	19 Ardgowan Street (West).
FULLARTON, ROBERT, M.A.	Ivybank, Port-Glasgow.
FYFE, JOHN P.	60 Esplanade.
GILLORAN, JAMES L.	33 Kelly Street.
GLEN, JAMES	Lincluden, 19 Octavia Terrace.
GRIER, THOMAS	22 Brisbane Street.
GRIEVE, ROBERT	Glenholm, 7 Newark Street.
HAIR, WILLIAM.	33 Union Street.
HAMILTON, ROBERT	5 Robertson Street.
HARDIE, WILLIAM, C.A.	Fairmount, 40 Esplanade.
HART, J. CAMPBELL	Glengarden, Fox Street.
HARVIE, ROBERT D. N.	40 Nicolson Street.
HASTIE, JOHN	44 Finnart Street.
HASTIE, WILLIAM	78 Finnart Street.
HEYLAND, A. C.	Langford Lodge, 58 Finnart St.
HILL, J. H.	60 Forsyth Street.
HILL, J. M.	52 Esplanade.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	Woolton, 93 Eldon Street.
HOUSTON, R. H.	Birnam, 40 Newark Street.
HUTCHESON, WM.	8 Ardgowan Street (West).
HUTCHISON, WM.	24 Kelly Street.

HYNDMAN, JOHN G. . . . .	6 Fox Street.
KERR, ANDREW . . . . .	97 Brisbane Street.
KERR, DANIEL . . . . .	Heywood, 1 Margaret Street.
KERR, J. S. . . . .	Clydeview, 49 Margaret Street.
KERR, ROBERT . . . . .	55 Newton Street.
LANG, JOHN . . . . .	Eldon Villa, 65 Eldon Street.
LEITCH, ARTHUR O. . . . .	Madeira Lodge, 8 Newark Street.
LETHAM, WILLIAM . . . . .	63 Union Street.
LOVE, JOHN . . . . .	Royal Bank, 38 Cathcart Street.
LOVE, ROBERT . . . . .	28 Brisbane Street.
LUSK, H. D. . . . .	Rosebank, 25 Forsyth Street.
LYLE, ALEX. P. . . . .	Marshall, 105 Finnart Street.
LYLE, ROBERT P. . . . .	Ingleholme, 107 Finnart Street.
M'CALLUM, DUNCAN . . . . .	Glenburn, 6 Newark Street.
M'CLURE, JOHN . . . . .	Mayfield, 66 Union Street.
M'CLURE, WILLIAM, Jun., M.A. . . . .	Mayfield, 66 Union Street.
MACDONALD, GEORGE . . . . .	Erlsmere, 101 Finnart Street.
MACDOUGALL, DUGALD . . . . .	Burnlea, 3 Newark Street.
MACDOUGALL, G. R. . . . .	22 Fox Street.
MACFARLAN, ALEX. . . . .	75 Union Street.
MACINTYRE, JOHN D. . . . .	22 Patrick Street.
MACKAY, EDWARD . . . . .	8 George Square.
M'KELVIE, DAVID B. . . . .	10 Forsyth Street.
M'KINNON, JOHN . . . . .	2 Lyle Street.
M'KIVER, JOHN . . . . .	Eastwood, 39 Finnart Street.
MACLEAN, ALEX. S. . . . .	31 Bank Street.
MACLEAN, JOHN . . . . .	Craigduart, 3 Octavia Terrace.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot. . . . .	70 Union Street.
MACNAUGHTAN, JAMES . . . . .	29 Nelson Street (W.).
MACPHAIL, JOHN . . . . .	5 Kelly Street.
MACPHERSON, Rev. J. F., M.A., B.D. . . . .	Belmont, 46 Margaret Street.
MACPHERSON, ROBERT . . . . .	56 Forsyth Street.
MARSHALL, W. J., M.D., L.R.C.S.E. . . . .	8 Ardgowan Square.
MASON, ROBERT . . . . .	Nellieslee, Newark Street.
MILLER, THOMAS . . . . .	21 Finnart Street.
MORIES, ALEX. S. . . . .	63 Finnart Street.
MORTON, ERNEST . . . . .	30 Forsyth Street.
MORTON, ROBERT . . . . .	30 Forsyth Street.
MUIR, ROBERT . . . . .	Ardmore, 38 Newark Street.
MUMME, CARL . . . . .	1 Ardgowan Street (West).
MURDOCH, DAVID R. . . . .	Lochwards, 7 Octavia Terrace.
MURRAY, GEORGE . . . . .	Greenlaw, Port-Glasgow.
MURRAY, ROBERT S. . . . .	3 Antigua Street.
NEILL, GEO. D. . . . .	26 Forsyth Street
NEILL, JAMES D. . . . .	National Bank, Cathcart Street.
NEILL, JOHN, M.A. . . . .	Glenfield, 1 Bedford Street.
NICOL, DUNCAN . . . . .	2 Octavia Terrace.

NICOL, JOHN S.	. . .	15 Forsyth Street.
NIVEN, G. W.	. . .	23 Newton Street.
NIXON, HENRY	. . .	Miramichi, Port-Glasgow.
PARK, W. U., M.A.	. . .	17 Robertson Street.
PATERSON, JAMES	. . .	Ashfield, 33 Finnart Street.
PATERSON, JAMES	. . .	7 Belville Street.
PATERSON, R. R.	. . .	Elmhurst, 42 Newark Street.
PATON, JAMES, M.D., C.M.	. . .	3 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	. . .	Maybank, 59 Finnart Street.
PHILIP, THOMAS, M.D., C.M.	. . .	42 Finnart Street.
PRENTICE, A. R.	. . .	74 Finnart Street.
PRENTICE, J. R.	. . .	Willow Park, 41 Ardgowan St. (W.)
PRENTICE, THOMAS	. . .	Willow Park, 41 Ardgowan St. (W.)
PURVIS, F. P.	. . .	Don Villa, Cardwell Bay
QUIN, WILLIAM A.	. . .	42 Brisbane Street.
RANKIN, JOHN F.	. . .	21 Octavia Terrace.
RANKIN, MATTHEW	. . .	21 Octavia Terrace.
RENNIE, JOHN	. . .	55 Finnart Street.
RENNIE, ROBERT	. . .	36 Union Street.
RODGER, JOHN	. . .	36 Forsyth Street.
RORISON, THOMAS D.	. . .	24 Roxburgh Street.
ROSS, P. L.	. . .	35 Regent Street.
ROSS, WILLIAM	. . .	63 Esplanade.
ROUGVIE, JAMES	. . .	17 Ardgowan Square.
ROWAN, GEORGE	. . .	67 Union Street.
ROWAN, JOHN	. . .	Clydeview, 55 Esplanade.
ROWAN, THOMAS B.	. . .	50 Eldon Street.
RUSSELL, JOSEPH	. . .	The Knowe, Port-Glasgow Road.
SCOTT, ALEXANDER	. . .	Denniston, 41 Newark Street.
SCOTT, JOHN, C.B., F.R.S.E.	. . .	Seafield House, 34 Brougham St.
SCOTT, JOSEPH D.	. . .	Beltrees, 58 Union Street.
SHEARER, ALEX.	. . .	2 Glen Street.
SHEARER, ALEX., Jun.	. . .	2 Glen Street.
SHEARER, HUGH	. . .	15 Fox Street.
SHEARER, R. B., M.A., LL.B.	. . .	Hartfell, 97 Finnart Street.
SLATER, JAMES, B.A., F.E.I.S.	. . .	14 Princes Street.
SOWTER, JOHN	. . .	149 Eldon Street.
SPEIRS, ALEX. J.	. . .	4 Glen Street.
SPEIRS, WILLIAM	. . .	4 Glen Street.
STARK, THOMAS	. . .	17 Fox Street.
STEELE, JAMES	. . .	40 Finnart Street.
STEWART, ANDREW	. . .	14 Newark Street.
STEWART, JAMES B.	. . .	28 Esplanade.
STEWART, JAMES K.	. . .	54 Forsyth Street.
STEWART, SAMUEL	. . .	Knocknair, Bogston.
TANNOCK, QUINTIN	. . .	17 Ardgowan Street (West).
TAYLOR, JAMES G.	. . .	Eskgrove Villa, 50 Ardgowan St. (W.)
THOM, WILLIAM A.	. . .	38 Brisbane Street.

THORBURN, JAS. G. . . .	Woodburn, 4 Newark Street.
THORNE, ROBERT . . . .	Cleavelands, 36 Newark Street.
THORNE, THOMAS M. . . .	Woodward, 51 Octavia Terrace.
TREW, Rev. JOHN, B.A. . . .	61 Union Street.
TURNBULL, A. J., C.E. . . .	Linwood, 83 Brisbane Street.
TYRE, JAMES . . . .	81 Holmscroft Street.
WALKER, HUGH W. . . .	Bellevue, 19 Eldon Street.
WALKER, JOHN . . . .	59 Newton Street.
WALKER, JOHN W. . . .	53 Forsyth Street.
WALKER, LOUSON, C.A. . . .	Westhorpe, 44 Newark Street.
WALLACE, JAMES, M.A., M.D., L.R.C.S.E. . . . .	16 Union Street.
WALLACE WM. K. . . . .	30 Ardgowan Street (West).
WALTON, J. D. . . . .	65 Union Street.
WATT, WILLIAM . . . . .	35 Ardgowan Street (West).
WILSON, JOHN . . . . .	53 Brisbane Street.
WILSON, WM. A., M.D., C.M., .	Thorncliffe, 54 Brisbane Street.
WINGATE, J. S. . . . .	Westhorpe, 44 Newark Street.
YOUNGER, R. L. . . . .	28 Finnart Street.
YUILL, WALTER . . . . .	29 Regent Street.

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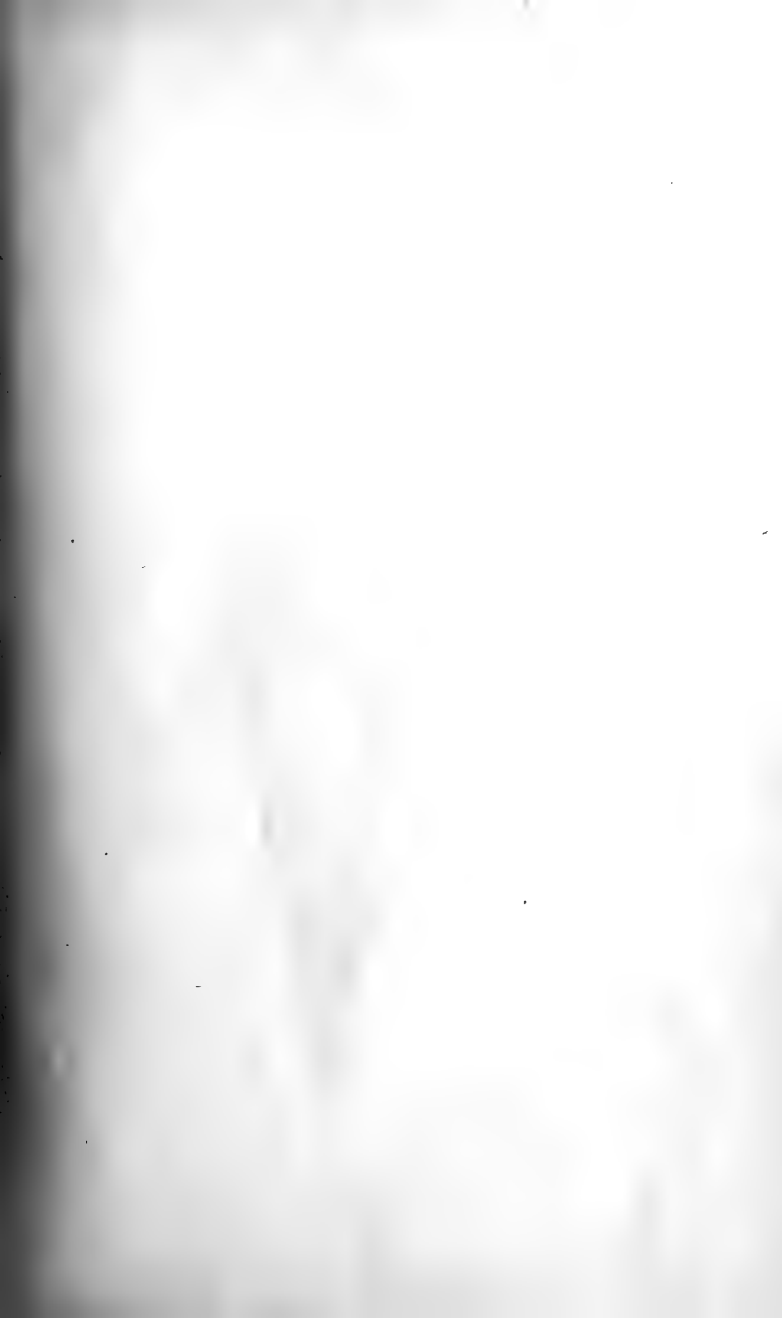




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22 SEP 1938







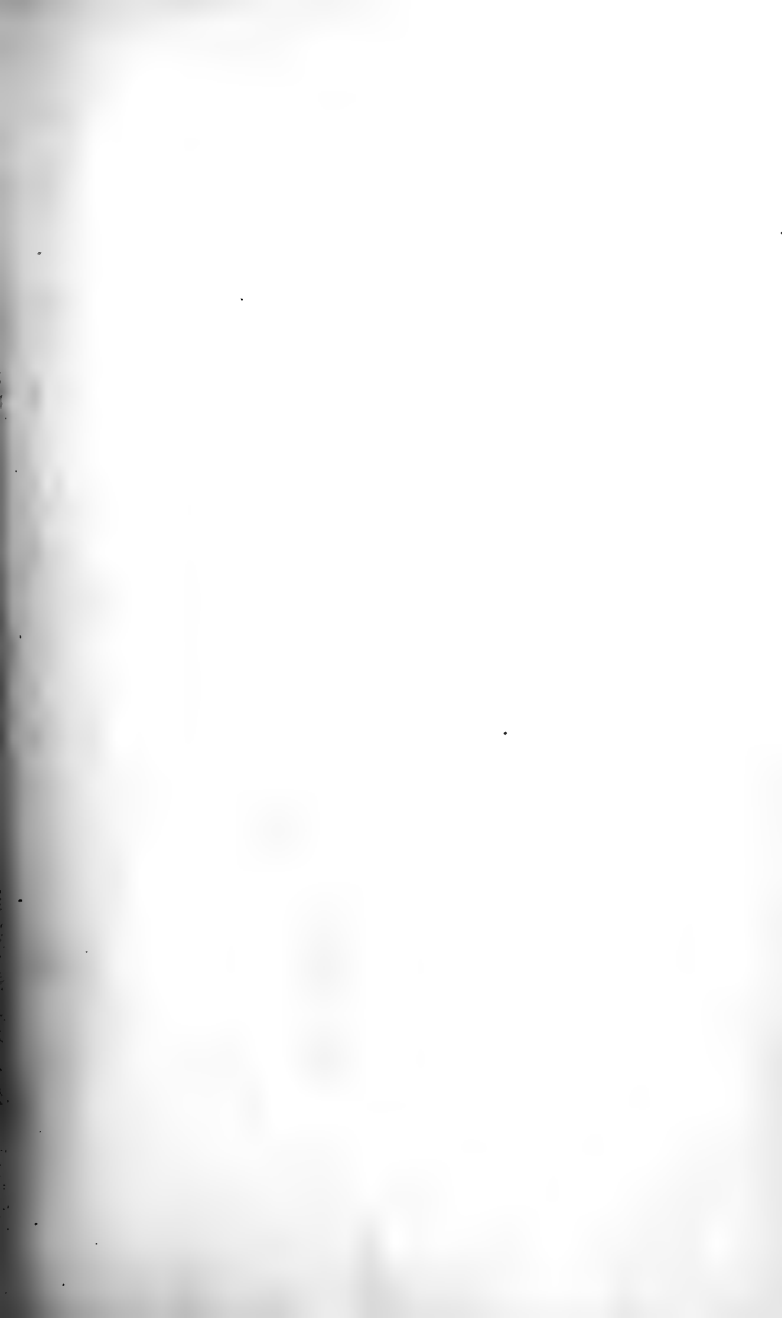














22 SEP 1938



# THIRTY-SECOND ANNUAL REPORT

OF THE

## Greenock

# Philosophical Society.

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SESSION 1892-93.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1893.



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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1893.

# Office-Bearers for Session 1893=94.

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President—ROBERT CAIRD.

Vice-Presidents— $\left\{ \begin{array}{l} \text{JOHN R. BLACK, M.D.} \\ \text{ANDREW KERR.} \end{array} \right.$

Treasurer—J. CAMPBELL HART.

Secretary—GEORGE MURRAY.

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## Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

F. P. PURVIS.

ROBERT HAMILTON.

A. R. PRENTICE.

JAMES SLATER, B.A.

LOUSON WALKER.

ANDREW CARMICHAEL.

WILLIAM HARDIE.

WILLIAM AULD.

J. W. GILMER.

ROBERT MORTON.

Rev. J. F. JOHNSTONE, M.A.

Sheriff J. HENDERSON BEGG.

J. W. WALKER.

R. B. SHEARER, M.A., LL.B.

WILLIAM COOK, B.A.

A. CAMPBELL FINLAY.

ROBERT MUIR.

MARCUS CALDER, M.D.

T. L. PATTERSON, F.I.C., F.C.S.

H. D. LUSK.

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## Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

A. CAMPBELL FINLAY, *Secretary.*

ROBERT MUIR.

Dr. CALDER.

Dr. BLACK.

T. L. PATTERSON.

H. D. LUSK.

*(Elected by Proprietors of Library.)*

LOUSON WALKER, *Chairman and Treasurer.*

JOHN SCOTT, C.B.

HUGH W. WALKER.

F. D. MORRISON.

WALTER W. B. RODGER.

JOHN RODGER.

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*Curator of Museum*—THOMAS RENNIE.



# GREENOCK PHILOSOPHICAL SOCIETY.

## Thirty-Second Annual Report,

SESSION 1892-93.

*Read and approved at the Annual Meeting of the Society, held in the Society's Hall, Watt Institution, on 3rd March, 1893—Robert Caird, Esq., President, in the Chair.*

### 1.—Statement of Accounts.

#### INCOME.

Balance from last Session, . . . . .		£30 17 4
230 Members, at 10/6, . . . . .	£120 15 0	
280 Ladies and Youths, at 3/6, . . . . .	49 0 0	
		169 15 0
Interest on Bank Account, . . . . .		0 18 11
		<u>£201 11 3</u>

#### EXPENDITURE.

Lecturers' Fees, . . . . .	£71 8 0
Expenses connected with Lectures, . . . . .	7 19 0
Museum Committee—Lighting, Heating, and Cleaning Hall, . . . . .	10 0 0
Printing, Advertising, and Stationery, . . . . .	18 14 6
Watt and Opening Lectures and Programmes, . . . . .	7 8 0
Collector and Hallkeeper's Allowances and Outlays, . . . . .	7 13 4
Lantern Fittings, . . . . .	6 3 5
Chairs, . . . . .	6 0 0
Secretary and Treasurer's Outlays, . . . . .	6 13 11
Balance to next Session, . . . . .	59 11 1
	<u>£201 11 3</u>

*Note.*—Out of above balance £20 has been appropriated for the Lantern.

E. & O. E.

(Signed) J. CAMPBELL HART, *Treasurer.*

GREENOCK, 3rd March, 1893.—We have examined the Account of which the above is an Abstract, compared it with the Vouchers, and found all correct, the Balance in Bank being Fifty-nine Pounds, Eleven Shillings, and One Penny.

(Signed) WM. AULD, }  
J. W. GILMER, } *Auditors.*

## II.—Statement of Proceedings.



In submitting its Report for the past Session, the Committee has pleasure in referring to the large addition which has been made to the Membership of the Society. The number of Members at the close of last Session was 196; of these 17 have resigned; but at the commencement of the present Session 51 new Members joined, making the total present Membership 230. There has also been an increase in the number of Ladies' and Youths' Tickets sold, the total number taken up this Session being 280, as against 221 last Session. It will be seen from the Treasurer's Statement that the balance at the credit of the Society now is £59 11s. 1d., as compared with £30 7s. 4d. last year; out of this balance, however, there remains to be paid the cost, amounting to £20 or thereby, of the oxyhydrogen lantern purchased by the Society; but even taking this into account, a considerable sum has been added to the balance of last year. Keeping in view the payment of this sum and also the extraordinary outlay incurred in providing additional chairs, and in the purchase of the screen and other apparatus connected with the lantern, the Committee thinks it is not without reason in congratulating the Members on the financial position of the Society.

The following Lectures were delivered during the past Session 1892-93 :—

1892

Oct. 28.—“*New and Old Ways to the Far East; the Overland Route and the Suez Canal.*” With Lime-light Illustrations. By Sir THOMAS SUTHERLAND, K.C.M.G., L.L.D., M.P.

Nov. 4.—“*Notes of a Visit to China and Japan in the Spring of 1891.*” With Lime-light Illustrations. By THOMAS PRENTICE, Esq., Greenock.

„ 11.—“*The Properties of Gases Explained and Illustrated.*” With Experiments. By Professor CARGILL G. KNOTT, D.Sc., F.R.S.E., Edinburgh.

- Nov. 18.—“*Scottish National Melodies from their Early Sources to the Present Time.*” With Vocal and other Illustrations. By Miss A. M. WAKEFIELD, London.
- „ 25.—“*John Ruskin; the Cultivation of Taste in our Schools, with special reference to his views.*” By WILLIAM JOLLY, Esq., F.G.S., F.R.S.E., H.M. Inspector of Schools, Glasgow.
- Dec. 2.—“*Colour and Form in the Animal World.*” With Lime-light Illustrations. By E. B. POULTON, Esq., M.A., F.R.S., London.
- „ 9.—“*Dramatic Recital.*” By Miss JENNIE M’GARRY, Canadian Elocutionist.
- „ 16.—“*The Homes and Haunts of Tennyson.*” By G. G. NAPIER, Esq., M.A., Glasgow. With Lime-light and Vocal Illustrations. Vocalists: Mr. James MacKinnon and Miss Milly Holding.

## 1893

- Jan. 27.—“*Sir Henry Raeburn, R.A., and Portraiture in Scotland.*” With Lime-light Illustrations. By JOHN M. GRAY, Esq., F.S.A., Scotland, Curator, National Portrait Gallery, Edinburgh.
- Feb. 3.—“*Macbeth seen through French and German Spectacles.*” By M. JULES A. L. KUNZ, Lecturer on French Literature in Heriot-Watt College, Edinburgh, and Queen Margaret College, Glasgow.
- „ 10.—“*Some Aspects of Carlyle’s Practical Philosophy.*” By JOHN MACCUNN, Esq., M.A., Professor of Philosophy and Political Economy in the University College, Liverpool.
- „ 17.—“*Flame: its Nature and Properties.*” With Experimental Illustrations. By THOMAS W. DRINKWATER, Esq., Ph.D., F.C.S., &c., Lecturer on Chemistry, Edin. Sch. Medicine.
- „ 24.—“*The Byeways of Brain Action.*” Illustrated by Black-board Sketches. By Dr. ANDREW WILSON, F.R.S.E., F.L.S., &c., Edinburgh.

The Watt Anniversary Lecture this year was kindly undertaken by Sir Frederick Bramwell, Bart., D.C.L., &c., but unfortunately he has been obliged through illness to postpone the delivery of his lecture until 5th April next.

With the exception just mentioned the programme issued at the commencement of the Session was carried through in its entirety.

Following up the recommendation embodied in the last Annual Report the Committee approached Captain Noble, C.B., with the view of obtaining his approval of the proposal to print and circulate his able lecture on "Internal Ballistics." Captain Noble not only acquiesced in the proposal, but was kind enough to present the Society with 190 copies for distribution among the Members, for which the most cordial acknowledgments of the Society are due to him.

To Sir Thomas Sutherland and Mr. Thomas Prentice special thanks are due for the very able and interesting lectures which they delivered, and the Committee desires to record the indebtedness of the Society to Mr. G. G. Napier, who not only delivered his lecture on the "Homes and Haunts of Tennyson" free of charge, but also bore, in great part, the expenses of the limelight and vocal illustrations with which it was accompanied.

As agreed to at the opening meeting of the Session, Sir Thomas Sutherland's lecture on "New and Old Ways to the Far East" has been printed and circulated among the Members.

Owing to the frequent use which is now being made of limelight illustrations in our lectures, the Committee resolved to purchase for the use of the Society an oxyhydrogen lantern, and accordingly voted the sum of £20 or thereby for this purpose.

During the first half of the Session Mr. Andrew Kerr and Mr. T. L. Patterson again kindly lent their lanterns and services to the Society in illustrating several of the lectures. For these and for the assistance rendered by these gentlemen in the purchase of the new lantern the Society is under obligation to them; and the Committee again desires to place on record its sense of indebtedness to them for the many services they have in past years rendered to the Society in this connection.

An afternoon course of University Extension Lectures was this Session delivered to a class of 101 students. The course consisted of six lectures on "The Age of the French Revolution," delivered by the Rev. James Mackinnon, M.A., Ph. D. (Heidelberg), Lecturer on History in the Glasgow Athenæum.

After paying all expenses a balance of £3 5s. remained on hand from this course, which sum has been added to the balance from the

similar course held last Session. The sum in the hands of the Treasurer on account of the afternoon Lectures now amounts, with interest, to £8 os. 1d.

Another course of University Extension Lectures was delivered on Wednesday evenings to a class composed chiefly of artizans. This course consisted of six lectures on "Electricity," delivered by Mr. Angus M'Lean, B.Sc., C.E., assistant to the Professor of Natural Philosophy in the Glasgow and West of Scotland Technical College. For this course 558 tickets were sold, but as, in order to bring the Lectures within the reach of all who might wish to attend, the price of the ticket had been fixed at 6d., the receipts were less than the expenditure by the sum of £13 13s. 1d., which deficit was defrayed out of the Gilchrist Lecture Fund. This fund, after paying that balance, amounts, with interest, to £46 12s. 8d.

A number of the students attending the evening class having, at the close of the course, expressed a desire that a continuation course of other six more advanced lectures should be delivered, the Committee thought the present a good opportunity of encouraging the students, and accordingly arranged for the delivery by Mr. M'Lean of another course of six lectures. Five of the lectures of this second course have now been delivered, and the audiences have been large and appreciative throughout. On this course, also, there will be a deficit, which will be defrayed out of the Gilchrist Lecture Fund. The Committee is gratified that these lectures have been so much appreciated, and that the efforts of the Society to stimulate these courses of systematic study have been so well received.

The Committee has made an application to the Combe Trust, Edinburgh, for a grant to Greenock of a course of Combe Lectures by Dr. Andrew Wilson, to be delivered next winter. No reply has as yet been received to the application, but the Committee is hopeful that a grant will be received, in which case the Lectures will be delivered in the Town Hall.

At the meeting held on 26th December, 1892, in terms of the Constitution of the Society, the Annual Report of the Committee of the Museum and Hall, of which a summary is appended, was submitted. The vacancies occurring in the Society's representatives in the Museum Committee were filled up by the re-election of Mr. T. L. Paterson and the election of Mr. H. D. Lusk.

The office-bearers whose term now expires are :—Mr. Robert Muir, senior vice-president ; and Mr. A. O. Leitch, Mr. John S. Nicol, Mr. Edward Mackay, Mr. D. M. Erskine, and Mr. Andrew Kerr, all of whom are ineligible for re-election to the same office for the following year.

The proceedings of the following Societies were received during the year, viz :—Canadian Institute, Toronto ; Junior Engineering Society, London ; Glasgow Philosophical Society.



## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1892.



Notable among the donors to the Museum this year are Mr. Thomas Steel, formerly of Greenock, and an active member of the Greenock Natural History Society, who has presented a number of articles of great interest both in ethnology and natural history; and Mr. Thomas Fisher, an earnest local botanist, who has been actively working up the Flora of the district. The plants given by the latter have been mounted, and add largely to the herbarium, which is now almost complete as a local collection.

Dr. Pilgar, of Paddington, through his friend, Dr. Calder, presented several splendid carboniferous fossils.

Other gentlemen have added considerably to their former gifts, and ladies also have made notable presentations.

A set of fifty beautiful photographs of scenes in the Sandwich Islands has been kindly lent by Dr. Douglas for exhibition during the New Year holidays.

During the past year much has been done towards furnishing and for the better showing of many of the exhibits. The Egyptian Lion has been set upon a pedestal at the doorway; and the large carved Egyptian stone has been coloured in the manner adopted at the British Museum. A number of large wall-cases have also been erected, and the Committee has decided to continue the building of these round the ground floor of the Museum.

The Trustees of the South Kensington Museum have again renewed the contents of their four cases, and have also again supplied four cartoons for the decoration of the Lecture Hall.

The number of visitors during the year amounted to about 20,000.

The Financial Report for the year shows an income of £330 15s. 6d., and expenditure £271 7s. 7d., leaving a surplus of £59 7s. 11d., which has been applied towards the reduction of the deficit at the close of last year of £104 7s.; the total debt now amounting to £44 19s. 1d.





# LIST OF MEMBERS FOR 1892-93.

## 1.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
JAMES B. STEPHENS, . . . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L., . . . . .	1865
ANDREW NOBLE, C.B., F.R.S., . . . . .	1892

## II.—Ordinary Members.

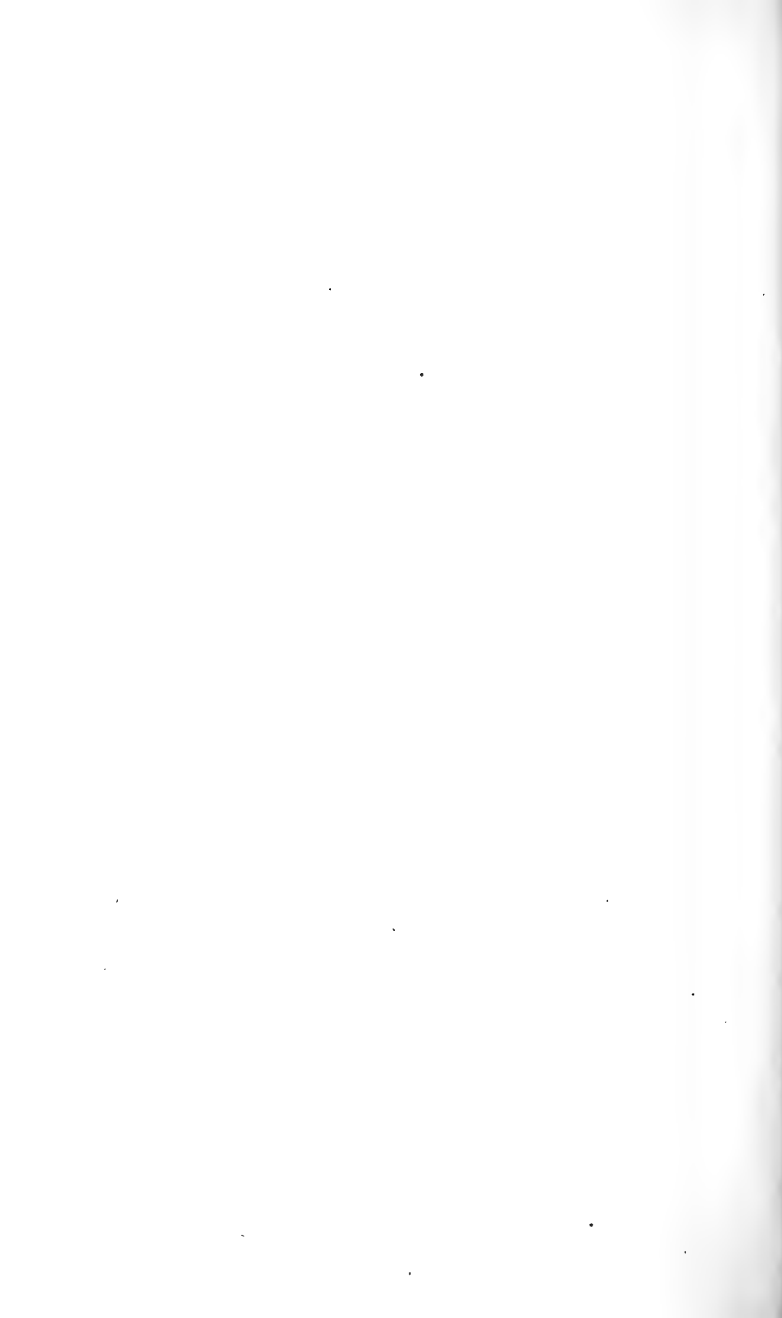
ADAM, JOHN . . . . .	2 Dock Breast.
ADAM, R. G. . . . .	Hollybank, Madeira Street.
ADAM, WILLIAM . . . . .	22 Forsyth Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES . . . . .	1 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank.
ALLAN, ALEXANDER, C.A. . . . .	67 Newton Street.
ALLAN, GEORGE J. . . . .	9 Esplanade.
ALLAN, ROBERT . . . . .	67 Newton Street.
ANDERSON, JOHN . . . . .	39 Esplanade.
ANDERSON, J. WALLACE . . . . .	67 Union Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAILEY, J. W. . . . .	52 Forsyth Street.
BAIRD, ARTHUR R. . . . .	24 Brisbane Street.
BALLINGALL, PETER . . . . .	Bank of Scotland.
BALLANTINE, ALEXANDER R. . . . .	28 Forsyth Street.
BARCLAY, JOHN . . . . .	Oakfield East, Ratho Street.
BARR, JAMES . . . . .	32 Ardgowan Street (West).
BAXTER, WILLIAM B. . . . .	Whitefarland.
BEGG, J. HENDERSON . . . . .	Thorndean House.
BENSON, ROBERT . . . . .	6 Bank Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, JOHN . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M. . . . .	37 Union Street.
BLAIR, R. F. . . . .	27 Cathcart Street.
BLAKE, MATTHEW . . . . .	60 Forsyth Street.
BOWDEN, JOHN . . . . .	6 Brisbane Street.
BROWN, JOHN A. . . . .	36 Margaret Street.
BROWN, J. D. . . . .	67 Esplanade.
BROWN, M. M'C. . . . .	53 Newton Street.
BROWN, R. G. . . . .	41 Esplanade.
BROWN, W. A. . . . .	119 Eldon Street.
BREMNER, ALEXANDER, F.E.I.S. . . . .	53 Newton Street.
BRYSON, WILLIAM K. . . . .	159 Eldon Street.

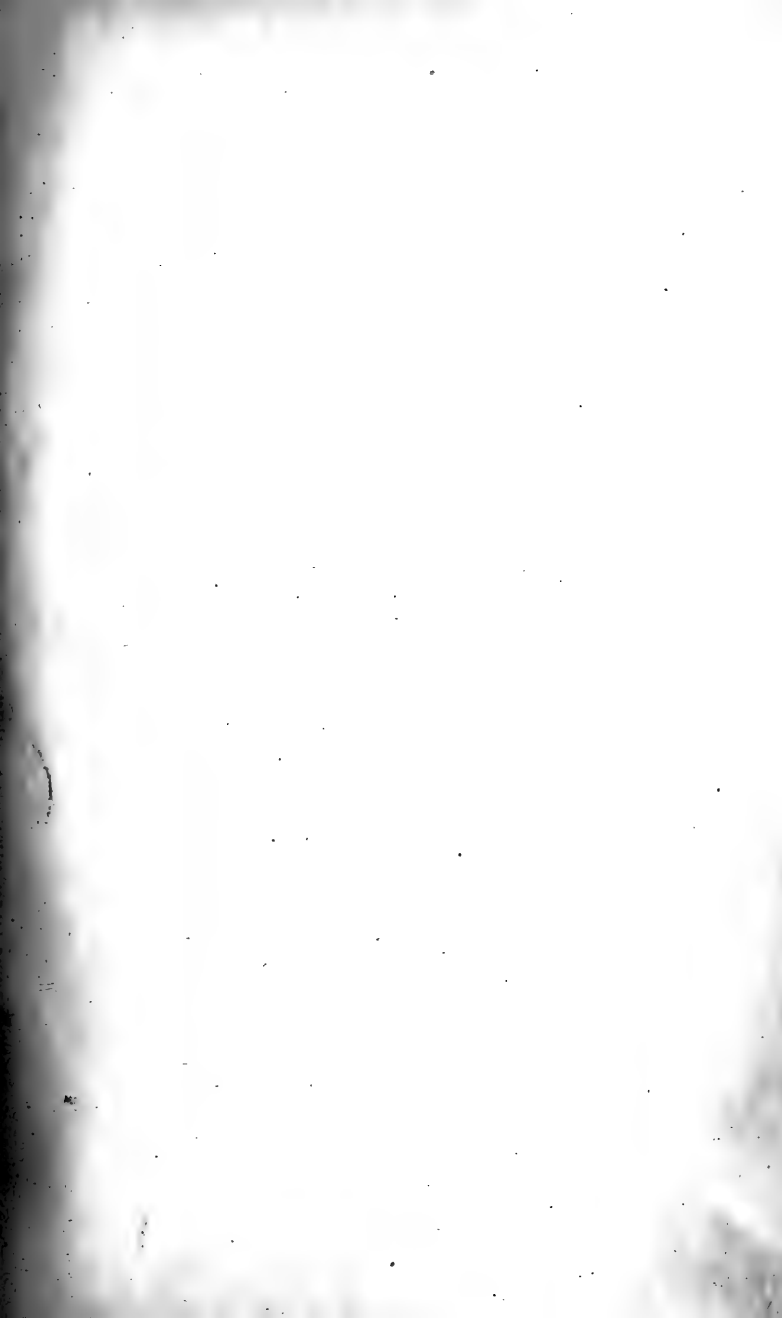
BUCHANAN, ROBERT . . . .	35 Brisbane Street.
CAIRD, COLIN S. . . . .	13 Newark Street.
CAIRD, PATRICK T. . . . .	Belleaire.
CAIRD, ROBERT . . . . .	5 Newark Street.
CALDER, MARCUS, M.D. . . .	12 Union Street.
CAMERON, JOHN . . . . .	25 Brisbane Street.
CAMPBELL, DUNCAN . . . . .	49 Brougham Street.
CARMICHAEL, ANDREW . . . .	34 Forsyth Street.
CARMICHAEL, J. D. M. . . . .	93 Finnart Street.
CARMICHAEL, WM. H. . . . .	76 Finnart Street.
CARMICHAEL, R. D. . . . .	93 Finnart Street.
CARMICHAEL, THOMAS . . . .	35 Esplanade.
CLERK, DUNCAN . . . . .	25 Octavia Terrace.
CLINK, CHARLES W. . . . .	7 Bentinck Street.
COOK, ARCHIBALD . . . . .	23 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S. .	71 Newton Street.
CRAWFORD, JAMES . . . . .	2 Wellington Street.
CRAWFORD, J. W. . . . .	93 Newton Street.
CRAWFORD, THOMAS . . . . .	61 Brisbane Street.
CURTIS, C. H. . . . .	27 Octavia Terrace.
CURTIS, W. H. . . . .	27 Bentinck Street.
DAVIE, ROBERT, Jun. . . . .	4 Fox Street.
DENHOLM, JOHN . . . . .	27 Finnart Street.
DENNISTON, J. S. . . . .	19 Patrick Street.
DICK, GEORGE . . . . .	3 Brougham Street.
DOUGLAS, T. N. . . . .	155 Eldon Street.
DUNCAN, GEORGE . . . . .	Ardenclutha, Port-Glasgow.
DUNCAN, JOHN . . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, M. F. . . . .	95 Newton Street.
ERSKINE, D. M. . . . .	Finnart Grove.
FERGUSON, A. D., M.A., . . .	53 Union Street.
FINGLAND, REV. E. D., M.A. .	33 Esplanade.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FINLAY, T. P. . . . .	61 Eldon Street.
FLEMING, JAMES . . . . .	39 Eldon Street.
FULLARTON, HUGH . . . . .	103 Finnart Street.
FULTON, JAMES . . . . .	37 Finnart Street.
FYFE, JOHN P. . . . .	103 Eldon Street.
GILMER, JOHN W. . . . .	40 Brisbane Street.
GLEN, JAMES . . . . .	19 Octavia Terrace.
GRIER, THOMAS . . . . .	22 Brisbane Street.
GRIEVE, ROBERT . . . . .	7 Newark Street.
HAIR, WILLIAM. . . . .	33 Union Street.
HAMILTON, ROBERT . . . . .	5 Robertson Street.
HAMILTON, W. . . . .	28 Eldon Street.
HARDIE, WILLIAM, C.A. . . .	60 Esplanade.
HART, J. CAMPBELL . . . . .	Glengarden, Fox Street.
HASTIE, JOHN . . . . .	44 Finnart Street.
HASTIE, WILLIAM . . . . .	78 Finnart Street.

HEYLAND, A. C.	58 Finnart Street.
HILL, JAMES H.	60 Forsyth Street.
HILL, J. M.	52 Esplanade.
HILL, JOHN H.	13 Eldon Street.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	93 Eldon Street.
HOUSTON, R. H.	40 Newark Street.
HUNTER, ROBERT	Hollywood, Port-Glasgow.
HYNDMAN, JOHN G.	6 Fox Street.
JENKINS, GEORGE	61 Esplanade.
JOHNSTON, Rev. THOS. F., M.A.	34 Eldon Street.
KENNEDY, JAMES	24 Union Street.
KERR, ANDREW	97 Brisbane Street.
KERR, JOHN	53 Eldon Street.
KERR, J. S.	49 Margaret Street.
LANG, JOHN	65 Eldon Street.
LAURIE, JAMES, M.B., C.M.	1 Shaw Place.
LEITCH, ARTHUR O.	8 Newark Street.
LINDSAY, A. N.	63 Newton Street.
LOCHHEAD, ROBERT	11 Bentinck Street.
LOVE, JOHN	Royal Bank.
LUSK, H. D.	25 Forsyth Street.
LYLE, ALEX. P.	105 Finnart Street.
LYLE, J. L.	109 Finnart Street.
LYLE, ROBERT P.	107 Finnart Street.
LYON, JAMES	Sugar Exchange.
M'CALL, JAMES	26 Finnart Street.
M'CLURE, JOHN	66 Union Street.
M'CLURE, WILLIAM, Jun., M.A.	77 Newton Street.
MACCUNN, JAMES	37 Ardgowan Street (W.)
MACDONALD, GEORGE	101 Finnart Street.
MACDONALD, PETER	99 Finnart Street.
MACDOUGALL, DUGALD	3 Newark Street.
MACDOUGALL, G. R.	22 Fox Street.
MACFARLANE, PETER	Glenclune, Port-Glasgow.
MACFARLAN, ROBERT, C.A.	45 Brisbane Street.
MACGREGOR, JOHN	34 Esplanade.
M'GREGOR, J. D.	48 Cathcart Street.
MACINTOSH, NEIL	32 Ardgowan Street.
MACINTYRE, JOHN D.	22 Patrick Street.
MACKAY, EDWARD	8 George Square.
MACKAY, PETER	47 Esplanade.
M'KELLAR, HUGH	109 Eldon Street.
M'KINNON, JOHN	2 Lyle Street.
MACLEAN, ALEX. S.	31 Bank Street.
MACLEAN, JAMES	3 Octavia Terrace.
MACLEAN, JOHN	3 Octavia Terrace.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.	70 Union Street.

MACPHAIL, JOHN . . . .	5 Kelly Street.
MACPHERSON, Rev. J. F., M.A., B.D.	46 Margaret Street.
MACPHERSON, ROBERT . . . .	56 Forsyth Street.
MARSHALL, W. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MASON, ROBERT . . . .	25 Newark Street.
MOFFAT, G. . . . .	21 Brisbane Street.
MORIES, ALEX. S. . . . .	63 Finnart Street.
MORTON, ERNEST . . . .	30 Forsyth Street.
MORTON, ROBERT . . . .	30 Forsyth Street.
MUIR, JAMES D. . . . .	47 Brougham Street.
MUIR, ROBERT . . . .	27 Bentinck Street.
MUIR, R. G. . . . .	75 Finnart Street.
MUMME, CARL . . . .	30 Newark Street.
MURDOCH, DAVID R. . . .	7 Octavia Terrace.
MURRAY, GEORGE . . . .	5 Robertson Street.
MURRAY, JAMES . . . .	Westfield, Port-Glasgow.
MURRAY, ROBERT S. . . .	27 Union Street.
NEILL, D. F. D. . . . .	1 Bedford Street.
NEILL, GEO. D. . . . .	26 Forsyth Street
NEILL, JAMES D. . . . .	National Bank.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NICOL, DUNCAN . . . .	2 Octavia Terrace.
NICOL, JAMES . . . .	32 Margaret Street.
NICOL, JOHN S. . . . .	40 Esplanade.
NIVEN, G. W. . . . .	23 Newton Street.
NIXON, HENRY . . . .	Miramichi, Port-Glasgow.
ORKNEY, ROBERT . . . .	63 Octavia Terrace.
PARK, W. U., M.A. . . .	17 Robertson Street.
PATERSON, JAMES . . . .	33 Finnart Street.
PATERSON, JAMES . . . .	7 Belville Street.
PATERSON, R. R. . . .	42 Newark Street.
PATON, JAMES, M.D., C.M. . .	3 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	59 Finnart Street.
PETTIGREW, JOHN, . . . .	29 Finnart Street.
PRENTICE, A. R. . . . .	74 Finnart Street.
PRENTICE, DAVID . . . .	66 Finnart Street.
PRENTICE, JOHN . . . .	48 Eldon Street.
PRENTICE, THOMAS . . . .	41 Ardgowan Street (W.)
PURVIS, F. P. . . . .	Don Villa, Cardwell Bay
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . .	21 Octavia Terrace.
RENNIE, JOHN . . . .	55 Finnart Street.
RENNIE, ROBERT . . . .	36 Union Street.
RODGER, JOHN . . . .	36 Forsyth Street.
RORISON, THOMAS D. . . .	24 Roxburgh Street.
ROSS, P. L. . . . .	30 Brymnner Street.
ROSS, WILLIAM . . . .	63 Esplanade.
ROUVIE, JAMES . . . .	17 Ardgowan Square.
ROWAN, GEORGE . . . .	67 Union Street.

ROWAN, JOHN . . . .	55 Esplanade.
ROWAN, THOMAS B. . . .	50 Eldon Street.
RUSSELL, JOSEPH . . . .	The Knowe.
SCOTT, JOHN, C.B., F.R.S.E. . . .	34 Brougham Street.
SCOTT, JOSEPH D. . . .	58 Union Street.
SHANKLAND, D. C. . . .	8 Madeira Street.
SHANKLAND, JAMES H. . . .	8 Madeira Street.
SHEARER, ALEX., Jun. . . .	2 Glen Street.
SHEARER, HUGH . . . .	15 Fox Street.
SHEARER, R. B., M.A., LL.B. . . .	97 Finnart Street.
SHEARER, WILLIAM . . . .	97 Finnart Street.
SLATER, JAMES, B.A., F.E.I.S. . . .	14 Princes Street.
SMITH, WILLIAM . . . .	29 Newton Street.
SOWTER, JOHN . . . .	149 Eldon Street.
SPEIRS, ALEX. J. . . .	4 Glen Street.
SPEIRS, WILLIAM . . . .	4 Glen Street.
STARK, THOMAS . . . .	17 Fox Street.
STEELE, JAMES . . . .	40 Finnart Street.
STEWART, ANDREW . . . .	14 Newark Street.
STEWART, JAMES K. . . .	54 Forsyth Street.
STEWART, SAMUEL . . . .	Knocknair, Bogston.
STIRLING, JAMES A. . . .	Lilybank, Cardwell Bay.
TANNAHILL, JAMES . . . .	9 Finnart Street.
TANNOCK, QUINTIN . . . .	17 Ardgowan Street (West).
TAYLOR, H. J. . . .	55 Forsyth Street.
TAYLOR, STAVELEY . . . .	Port-Glasgow.
THOM, WILLIAM A. . . .	38 Brisbane Street.
THOMSON, JOHN B. . . .	13 Captain Street.
THORBURN, JAS. G. . . .	4 Newark Street.
THORNE, HARRY . . . .	51 Octavia Terrace.
THORNE, ROBERT . . . .	36 Newark Street.
THORNE, THOMAS M. . . .	51 Octavia Terrace.
TREW, Rev. JOHN, B.A. . . .	54 Union Street.
TURNBULL, A. J., C.E. . . .	83 Brisbane Street.
WALKER, HUGH W. . . .	Bellevue, Johnstone Street.
WALKER, JOHN . . . .	59 Newton Street.
WALKER, JOHN W. . . .	53 Forsyth Street.
WALKER, LOUSON, C.A. . . .	44 Newark Street.
WALLACE, JAMES, M.A., M.D. . . .	16 Union Street.
WALLACE, WM. K. . . .	30 Ardgowan Street (West).
WATSON, HUGH . . . .	6 Brisbane Street.
WATT, WILLIAM . . . .	35 Ardgowan Street (West).
WILSON, EDWARD, Jun. . . .	81 Brisbane Street.
WILSON, THOMAS . . . .	49 Esplanade.
WILSON, WM. A., M.D., C.M., . . .	54 Brisbane Street.
WINGATE, J. S. . . .	44 Newark Street.
WRIGHT, W. J. . . .	75 Union Street.
YOUNG, JAMES . . . .	87 Newton Street.
YOUNGER, ROBERT L. . . .	28 Finnart Street.





PRESENTED

22 SEP 1938







# Thirty: Third Annual Report

OF THE

—❧ GREENOCK —❧—

## PHILOSOPHICAL SOCIETY.

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Session 1893-94.

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GREENOCK:

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1894.



# Thirty: Third Annual Report

OF THE

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1894.

# Greenock Philosophical Society.

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## OFFICE-BEARERS FOR SESSION 1894-95.

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President—JOHN R. BLACK, M.D.

Vice-Presidents— $\left\{ \begin{array}{l} \text{ANDREW KERR.} \\ \text{F. P. PURVIS, F.R.S.N.A.} \end{array} \right.$

Treasurer—J. CAMPBELL HART.

Secretary—GEORGE MURRAY.

---

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

ANDREW CARMICHAEL.

WILLIAM HARDIE.

WILLIAM AULD.

J. W. GILMER.

ROBERT MORTON.

Rev. T. F. JOHNSTONE, M.A.

Sheriff J. HENDERSON BEGG.

J. W. WALKER.

R. B. SHEARER, M.A., LL.B.

WILLIAM COOK, B.A.

Rev. H. MACMILLAN, D.D., LL.D.

ROBERT CAIRD.

A. N. LINDSAY.

H. J. TAYLOR.

G. W. NIVEN.

MARCUS CALDER, M.D.

T. L. PATTERSON, F.I.C., F.C.S.

H. D. LUSK.

A. CAMPBELL FINLAY.

ROBERT MUIR.

---

### Committee of Museum and Hall.

(Elected by Philosophical Society.)

Dr. CALDER.

Dr. BLACK, *Chairman*.

T. L. PATTERSON.

H. D. LUSK, *Secretary*.

A. CAMPBELL FINLAY.

ROBERT MUIR.

(Elected by Proprietors of Library.)

HUGH W. WALKER.

F. D. MORRISON.

WALTER W. B. RODGER.

JOHN RODGER.

LOUSON WALKER, *Treasurer*.

JOHN SCOTT, C.B.

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*Curator of Museum*—THOMAS RENNIE.

# Thirty-Third Annual Report,

SESSION 1893-94.

*Read and approved at the Annual Meeting of the Society, held in the Society's Hall, Watt Institution, on 2nd March, 1894—  
Dr. John R. Black, Vice-President, in the Chair.*

## 1.—Statement of Accounts.

### INCOME.

Balance from last Session, . . . . .	£59 11 1
233 Members, at 10/6, . . . . .	£122 6 6
282 Ladies and Youths, at 3/6, . . . . .	49 7 0
	<hr/>
Interest on Bank Account, . . . . .	171 13 6
	0 9 5
	<hr/>
	£231 14 0

### EXPENDITURE.

Lecturers' Fees, . . . . .	£95 11 0
Expenses connected with Lectures, . . . . .	3 15 0
Museum Committee—Lighting, Heating, and Cleaning Hall, . . . . .	10 0 0
Printing, Advertising, and Stationery, . . . . .	22 7 3
Publishing Watt Lecture, 1893, . . . . .	17 2 0
Collector and Hallkeeper's Allowances and Outlays, . . . . .	7 19 0
Lantern, . . . . .	16 9 2
Fittings, . . . . .	3 17 0
Secretary's and Treasurer's Outlays, . . . . .	3 16 2
	<hr/>
	£180 16 7
Balance at Credit in National Bank, . . . . .	50 17 5
	<hr/>
	£231 14 0

E. & O. E.

(Signed) J. C. HART, *Treasurer.*

GREENOCK, 26th February, 1894.—We have examined the Account, of which the above is an Abstract, compared it with the Vouchers, and found all correct, the Balance in Bank being Fifty Pounds, Seventeen Shillings, and Fivepence.

(Signed) WM. AULD, }  
A. R. PRENTICE, } *Auditors.*

*Note.*—The undernoted sums from the following sources are at the credit of separate accounts :—

Gilchrist Trust Lectures, 1886-1891, . . . . .	£28 13 3
Combe Trust Lectures, 1893, . . . . .	43 16 2
University Extension Lectures, . . . . .	8 4 7
(Intd.) J. C. H., <i>Treas.</i>	

## II.—Statement of Proceedings.

The Committee have pleasure in submitting to the Members the Thirty-third Annual Report of the Society. The number of Members' Tickets sold for the Session was 233, being an increase of three over those sold last year; and the number of Ladies' Tickets was 282, being an increase of two. At the commencement of the Session, the Committee were gratified that their endeavour to provide an attractive programme was so successful that more tickets were applied for than the Treasurer was able to provide, the number of tickets sold (515) having been greater than for any previous Session in the history of the Society. The attendance at the Lectures has also been so well maintained as to be a matter for congratulation. The Committee have also pleasure in referring to the funds of the Society, which are in a very satisfactory state, the balance in the hands of the Treasurer amounting to £50 17s. 5d., which is the largest clear balance that has ever been carried forward from one Session to another; for, although the balance carried forward last year was greater, there had to be paid out of it, as was stated in the Report, the cost of the Society's lantern and fittings, which, from the accounts submitted this year, it will be seen, amounted to £20 6s. 2d.

On 5th April, 1893, Sir Frederick Bramwell, Bart., delivered his postponed Watt Anniversary Lecture on "Subterranean Communications."

The following Lectures were delivered during the past Session—1893-94:—

1893.

Oct. 27.—OPENING LECTURE. "*On Public Speaking.*" By The Very Rev. JOHN CAIRD, D.D., LL.D., Principal of the University of Glasgow.

Nov. 3.—"*The Social Progress of Women during the last 100 years.*" By Mrs. HENRY FAWCETT, London.

„ 10.—"*Thirty Years at the Play.*" By CLEMENT SCOTT, Esq., London.

Nov. 17.—“*The Campaign of Sedan.*” With Lime-light Illustrations.  
By J. W. GILMER, Esq., Greenock.

„ 24.—“*Colour.*” Illustrated by Examples. By W. SCOTT MORTON,  
Esq., Edinburgh.

Dec. 1.—“*Facts about Fiction.*” By Dr. A. CONAN DOYLE, London.

„ 8.—“*Recent advances in our knowledge of the Brain.*” With Lime-light Illustrations. By JOHN G. M'KENDRICK, Esq., M.D., LL.D., F.R.S., &c., Professor of Physiology in the University of Glasgow.

„ 15.—“*Macbeth: a Moral Study.*” By the Rev. W. J. MACDONALD, M.A., Kirkcaldy.

„ 22.—“*Dramatic Recital.*” By ERNEST DENNY, Esq., London.

1894.

Jan. 19.—In Honour of the Anniversary of the Birth of James Watt.  
“*Ship Resistance.*” Illustrated by Diagrams and Lime-light Views. By R. E. FROUDE, Esq., Mem. Inst. C.E., Assoc. Mem. of Council Inst. Nav. Architects, London.

„ 26.—“*Lords and Commons up to Date—Men and Manners of the Parliament of 1893.*” With Lime-light Illustrations. By F. CARRUTHERS GOULD, Esq., London.

Feb. 2.—“*To, At, and From the Chicago Exhibition.*” Illustrated by Lime-light Views. By ANDREW JAMIESON, Esq., M.I.C.E., F.R.S.E., Professor of Engineering in the Glasgow and West of Scotland Technical College.

„ 9.—“*Europe during the Ice Age.*” Illustrated by Diagrams and Maps. By JAMES GEIKIE, Esq., D.C.L., LL.D., F.R.S. Professor of Geology and Mineralogy in the University of Edinburgh.

„ 16.—“*High Life in the Middle Ages: Glimpses of our Ancestors at Home.*” By WILLMOTT DIXON, Esq., LL.B., of Trinity College, Cambridge, and of the Inner Temple, Barrister-at-Law.

„ 23.—“*Recent Ideas on Electricity.*” Illustrated by Experiments. By JAMES BLYTH, Esq., M.A., F.R.S.E., Professor of Natural Philosophy in the Glasgow and West of Scotland Technical College.

In arranging the programme for the past Session the Committee endeavoured to follow as closely as possible the lines of their predecessors in providing Lectures on a variety of subjects, and, judging from the attendances at the meetings of the Society, they

believe that their action has met with the approval of the Members. Fortunately all the Lecturers whose names appeared on the programme were able to fulfil their engagements.

For the opening Lecture the Committee were fortunate in securing the services of the Very Reverend Principal Caird, Glasgow, to whom the warmest acknowledgments of the Society are due for his able Lecture on "Public Speaking."

The Committee desire also to record their indebtedness to Mr. J. W. Gilmer and Mr. W. Scott Morton for the Lectures which they kindly delivered.

The Watt Anniversary Lecture delivered by Sir Frederick Bramwell last Session has been printed and circulated among the Members.

The Watt Lecture this year was kindly undertaken by Mr. R. E. Froude, who took as his subject, "Ship Resistance," which he illustrated by models and a number of diagrams shown by the oxy-hydrogen lantern. The best thanks of the Society are due to Mr. Froude for his Lecture. The Committee have resolved that the Lecture should be printed as one of the papers of the Society, and this is now being done under the supervision of Mr. F. P. Purvis.

Before the beginning of the Session, intimation was received from the Combe Trustees that they had granted a Course of Health Lectures to Greenock, to be delivered by Dr. Andrew Wilson, F.R.S.E., &c., in the months of October and November. A special Committee was, as in the case of the Gilchrist Lectures, appointed to take charge of this course, and a copy of that Committee's report is appended, from which it will be seen that the course was a very successful one. On submitting the Report to the Combe Trustees, intimation was received from them that they would provide volumes to be distributed among the successful competitors in the Examination which was held on the subjects treated of by Dr. Wilson in these Lectures. A very handsome gift of the Combe Trust publications has since been received, and the prizes have now been distributed among the successful competitors. For these prizes the Committee desire to express their indebtedness to the Combe Trust.

At the commencement of the Session it was found, after inquiry, that a course of afternoon lectures would not probably meet with



the success which attended the course held during the previous Session, and it was not, therefore, thought desirable to enter upon an afternoon course.

In view of the course of Combe Lectures delivered in the early part of the Session, it was not considered advisable to institute a course of Science Lectures for an evening class.

From the Treasurer's statement it will be seen that the sums at the credit of the Science Lectures fund are £28 13s. 3d., and £43 16s. 2d.—£72 9s. 5d. in all; and that there is also in the hands of the Treasurer on account of the fund for afternoon lectures the sum of £8 4s. 7d.

At the meeting held on 25th December, 1893, in terms of the constitution of the Society, the Annual Report of the Committee of the Museum and Hall, of which a summary is appended, was submitted. The vacancies occurring in the Society's representatives in the Museum Committee were filled up by the re-election of Messrs. A. Campbell Finlay and Robert Muir.

The office-bearers whose term now expires are:—Mr. Robert Caird, President; Dr. Black, senior Vice-President; Mr. George Murray, Secretary; and Mr. F. P. Purvis, Mr. Robert Hamilton, Mr. A. R. Prentice, Mr. James Slater, and Mr. Louson Walker, Members of Committee. With the exception of the Treasurer and Secretary and Mr. Louson Walker (who was elected to fill a vacancy in the Committee two years ago), they are severally ineligible for re-election to the same office for twelve months.

The Committee desire to place on record their appreciation of the valuable services which Mr. Caird has rendered to the Society during his term of office as President, especially in view of the additional labours which he undertook in connection with the University Extension, Science, and Combe Trust Lectures. The Committee also desire to express their appreciation of the services rendered by the Treasurer, Mr. J. Campbell Hart, in connection with these courses.

The proceedings of the following Societies were received during the year, viz.:—Canadian Institute, Toronto; Glasgow Philosophical Society.

## Report on Course of Combe Lectures

DELIVERED AT GREENOCK BY

Dr. Andrew Wilson, F.R.S.E., &c., 1893.

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The Committee of the Philosophical Society and the General Committee called together by that Society from all classes of the community have the honour to report that a course of eight lectures on Physiology, generously granted by the Combe Trustees, was given in the Greenock Town Hall on the evenings of 5th, 12th, 19th, and 26th October, and 2nd, 9th, 23rd, and 30th November, 1893.

The attendances were—at the first lecture, 3,008; at the second, 3,100; but, as complaints were made of overcrowding, it was thought desirable to suspend entirely admission by payment at the doors, and the attendance at the succeeding six lectures was therefore limited to the number of course tickets sold, viz., 2,758.

The prices charged were, for the course tickets, 2s. 6d. for the boxes, and 6d. for all other parts of the house.

The takings from all sources were £107 6s. 4d., and the expenses £63 10s. 2d., leaving a net surplus of £43 16s. 2d., which, with the approval of the Combe Trustees, the Committees propose to devote in part to the purchase of prizes to be awarded to those who pass the examination referred to later in this report, and the balance in aid of Science Lectures for the people, and for similar purposes promoted by the Philosophical Society.

As, on account of the great popularity of these lectures, many persons took their seats an hour, or even two, before that fixed for the lecture, the Committees arranged for the use of the organ each evening to beguile the tedium of waiting.

An examination was held after the close of the course on the subjects treated in the lectures, at which thirty candidates presented themselves. The questions were set by Dr. Wilson, and the papers have been sent to him for adjudication.

After the eighth lecture the following resolution was put to the large meeting by the President of the Philosophical Society, and carried by acclamation and with the greatest enthusiasm :—

“That the best thanks of the community of Greenock be given to the Combe Trustees for their generosity in granting this course of lectures to this town, and that the audiences attending the lectures express the hope that, in consequence of the great success of the first course, a second course by Dr. Andrew Wilson may be granted to Greenock next year.”

Besides this resolution, resolutions to a similar effect were passed by the Magistrates and Town Council of Greenock and by the Trades Council, copies of which are annexed.

The Committees desire to reiterate to the Combe Trustees the expression of their gratitude for these lectures, and of their sense of the great importance to the community of the instruction conveyed in them. And further, they feel that any report on the subject would be very inadequate and incomplete which did not contain their recognition of the great ability, consummate tact, and unsurpassable qualities of Dr. Andrew Wilson as a lecturer. The success of these lectures, unparalleled in so far as Greenock is concerned, is certainly mainly due to his personality, and the Committees most heartily concur in the desire universally expressed by the whole town for a further course on Public Health by the same distinguished lecturer.

R. CAIRD,

*President of the Greenock Philosophical Society.*

GEO. MURRAY,

*Hon. Secretary of the Greenock Philosophical Society.*

Greenock, 24th December, 1893.

### Copy Resolutions referred to in foregoing Report.

#### I.—BY MAGISTRATES AND TOWN COUNCIL.

That the Town Council resolve to record their thanks to the Combe Trustees for the opportunity they have afforded the community of Greenock of hearing, at almost no cost whatever, an admirable course of lectures on the subject of physiology and the laws of health, which were given in the Town Hall, Greenock, weekly, during the months of October and November. The Town Council further resolve to record their highest appreciation of the talent displayed by the eminent lecturer of the course, Dr. Andrew Wilson, F.R.S.E., &c., whose efforts were heartily appreciated by the interested audiences whose numbers filled the Town Hall at each lecture. From the pleasure thus received by so many in the community, the Town Council sincerely hope that the Philosophical Society will endeavour to secure from the Combe Trustees the services of Dr. Wilson to give them a further course of his interesting lectures on this subject.

#### II.—BY THE UNITED TRADES COUNCIL.

Resolved, that the United Trades Council of Greenock tender to the Combe Trustees their sincere thanks for the course of Lectures on Physiology recently delivered in the Town Hall of this town, and the assurance of their sense of the great importance of the dissemination of such knowledge of the laws affecting health as was so clearly, forcibly, and attractively imparted by Dr. Wilson to the working men and women of Greenock in these lectures.

They desire specially to recognise the great ability of the Lecturer, who succeeded not only in attracting large audiences, but of so keeping up the interest that the attendances were maintained to the last, and that without in the least sacrificing fulness, clearness, and accuracy of exposition and demonstration, and that this resolution be forwarded to the Combe Trustees through the Committee of the Philosophical Society.

## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1893.

The number of specimens gifted to the Museum during the past year is not very large; but their value is great, and they are well worthy of examination. The increase made to them has been chiefly due to the kindness of friends who, either at home or in their travels, have come across articles of interest; and several of them would prove of interest even to those who do not make an earnest study of the departments to which they belong.

Fourteen British birds have been purchased and added to the collection, which now approaches so near to completion that those still wanting are hardly to be got even for money. One specimen had to be refused by the Committee, a Great Awk—the price asked being 350 guineas.

A few additions still require to be made to complete the British quadrupeds.

During the year the Curator's office, which formerly occupied a corner near the entrance, has been removed, and a new one erected at the west window.

The erection of wall cases is still being gone on with—one-third of the walls of the ground floor being now furnished in that way.

The Trustees of South Kensington Museum renewed the contents of their four cases last August with Chinese porcelain, Italian jewellery (as worn by the peasants of Florence and Lower Etruria), Venetian glass, millefiore, aventurine, &c. They have also lent four cartoons for the decoration of the Lecture Hall.

The number of visitors during the year was nearly 19,000.

The Financial Report for the year shows an income of £323 10s. 6d., and expenditure £353 10s. 11d.—the expenditure being £30 os. 5d. more than the receipts. The total debt of the Committee at the close of the year is £74 19s. 6d.

# LIST OF MEMBERS FOR 1893-94.

## 1.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
JAMES B. STEPHENS, . . . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L., . . . . .	1865
Sir ANDREW NOBLE, C.B., F.R.S., . . . . .	1892

## II.—Ordinary Members.

ADAM, JOHN . . . . .	2 Dock Breast.
ADAM, R. G. . . . .	Hollybank, Madeira Street.
ADAM, WILLIAM . . . . .	22 Forsyth Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES . . . . .	1 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank.
ALLAN, ALEXANDER, C.A. . . . .	67 Newton Street.
ALLAN, GEORGE J. . . . .	9 Esplanade.
ALLAN, ROBERT . . . . .	67 Newton Street.
ANDERSON, JAMES . . . . .	80 Finnart Street.
ANDERSON, J. WALLACE . . . . .	67 Union Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAILEY, J. W. . . . .	52 Forsyth Street.
BAIRD, ARTHUR R. . . . .	24 Brisbane Street.
BALLINGALL, PETER . . . . .	Bank of Scotland.
BARCLAY, JOHN . . . . .	Oakfield East, Ratho Street.
BAXTER, WILLIAM B. . . . .	Whitefarland.
BEGG, J. HENDERSON . . . . .	Thorndean House.
BENSON, ROBERT . . . . .	6 Bank Street.
BIRKMYRE, HENRY . . . . .	Springbank, Port-Glasgow.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, JOHN . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M. . . . .	37 Union Street.
BLAIR, R. F. . . . .	27 Cathcart Street.
BLAKE, MATTHEW . . . . .	60 Forsyth Street.
BOWDEN, JOHN . . . . .	6 Brisbane Street.
BROWN, GEORGE . . . . .	20 Ardgowan Street.
BROWN, JAMES . . . . .	32 Ardgowan Street.
BROWN, JOHN A. . . . .	36 Margaret Street.
BROWN, J. D. . . . .	67 Esplanade.
BROWN, M. M'C. . . . .	53 Newton Street.
BROWN, R. G. . . . .	41 Esplanade.
BROWN, W. A. . . . .	119 Eldon Street.
BRYSON, WILLIAM K. . . . .	159 Eldon Street.
BUCHANAN, ROBERT . . . . .	74 Finnart Street.

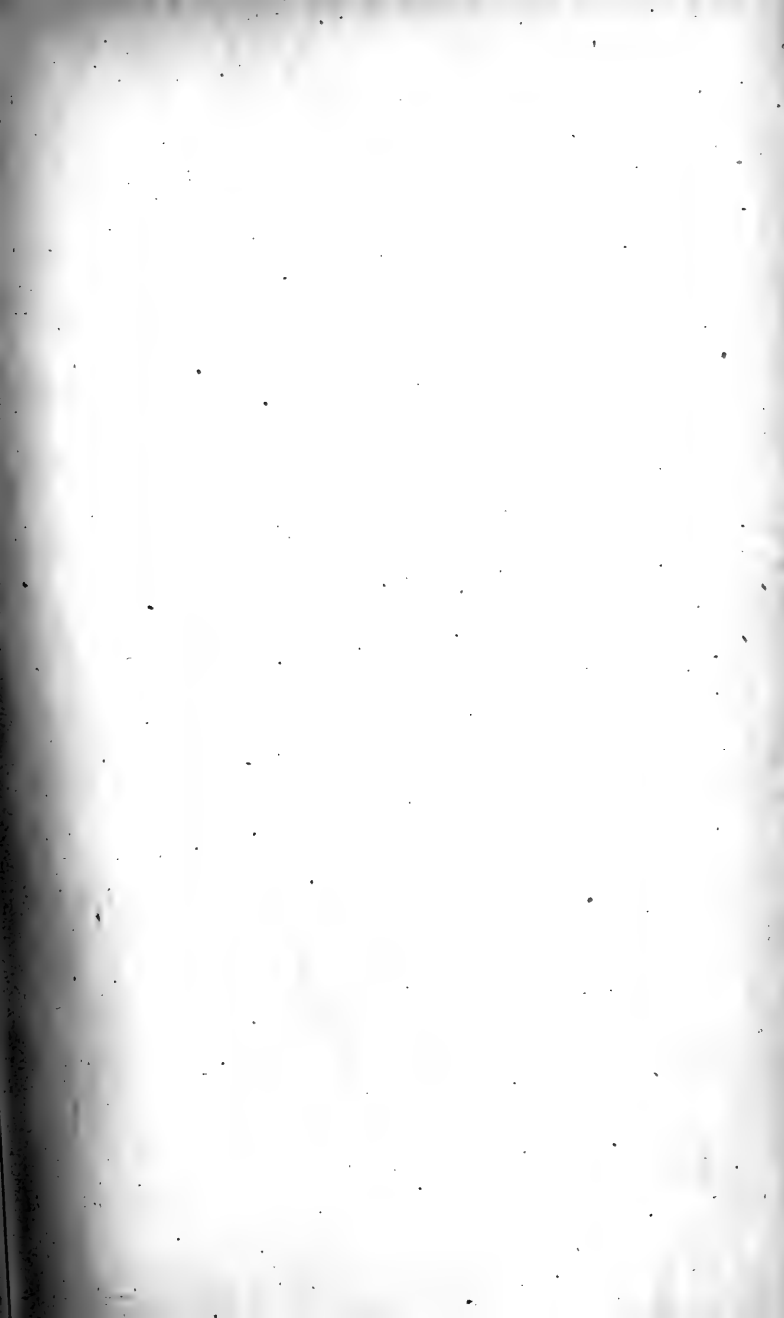
CAIRD, COLIN S.	. . .	13 Newark Street.
CAIRD, PATRICK T.	. . .	Belleaire.
CAIRD, ROBERT	. . .	5 Newark Street.
CALDER, MARCUS, M.D.	. . .	12 Union Street.
CAMERON, JOHN	. . .	25 Brisbane Street.
CAMPBELL, DUNCAN	. . .	49 Brougham Street.
CARMICHAEL, ANDREW	. . .	34 Forsyth Street.
CARMICHAEL, J. D. M.	. . .	93 Finnart Street.
CARMICHAEL, WM. H.	. . .	76 Finnart Street.
CARMICHAEL, R. D.	. . .	93 Finnart Street.
CARMICHAEL, THOMAS	. . .	35 Esplanade.
CLERK, DUNCAN	. . .	25 Octavia Terrace.
CLINK, CHARLES W.	. . .	7 Bentinck Street.
COOK, ARCHIBALD	. . .	23 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	. . .	71 Newton Street.
CRAWFORD, JAMES	. . .	2 Wellington Street.
CRAWFORD, J. W.	. . .	93 Newton Street.
CRAWFORD, THOMAS	. . .	61 Brisbane Street.
CURTIS, C. H.	. . .	27 Octavia Terrace.
CURTIS, W. H.	. . .	38 Newark Street.
DAVIE, ROBERT, Jun.	. . .	4 Fox Street.
DENNISTON, J. S.	. . .	19 Patrick Street.
DICK, GEORGE	. . .	3 Brougham Street.
DONALD, JAMES	. . .	24 Forsyth Street.
DOUGLAS, T. N.	. . .	155 Eldon Street.
DUNCAN, GEORGE	. . .	Ardenclutha, Port-Glasgow.
DUNCAN, JOHN	. . .	Ardenclutha, Port-Glasgow.
DUNLOP, M. F.	. . .	95 Newton Street.
ERSKINE, D. M.	. . .	Finnart Grove.
FERGUSON, A. D., M.A.,	. . .	53 Union Street.
FINGLAND, REV. E. D., M.A.	. . .	33 Esplanade.
FINLAY, A. CAMPBELL	. . .	62 Esplanade.
FINLAY, T. P.	. . .	61 Eldon Street.
FISHER, WILLIAM A.	. . .	40 Forsyth Street.
FULTON, JAMES	. . .	89 Brisbane Street.
FYFE, JOHN P.	. . .	103 Eldon Street.
GILMER, JOHN W.	. . .	40 Brisbane Street.
GILMOUR, R. S.	. . .	54 Brougham Street.
GLEN, JAMES	. . .	19 Octavia Terrace.
GOSSMAN, EDWIN	. . .	Craigenclutha, Victoria Road, Gourock.
GRIER, THOMAS	. . .	22 Brisbane Street.
GRIEVE, ROBERT	. . .	7 Newark Street.
HAIR, WILLIAM.	. . .	33 Union Street.
HAMILTON, ROBERT	. . .	5 Robertson Street.
HARDIE, WILLIAM, C.A.	. . .	60 Esplanade.
HART, J. CAMPBELL	. . .	Glengarden.
HASTIE, JOHN	. . .	44 Finnart Street.
HASTIE, WILLIAM	. . .	78 Finnart Street.

HEYLAND, A. C.	. . .	58 Finnart Street.
HILL, JAMES H.	. . .	60 Forsyth Street.
HILL, J. M.	. . .	52 Esplanade.
HILL, JOHN H.	. . .	13 Eldon Street.
HOUSTON, ANDREW	. . .	11 Forsyth Street.
HOUSTON, G. W.	. . .	93 Eldon Street.
HOUSTON, R. H.	. . .	40 Newark Street.
HYNDMAN, JOHN G.	. . .	6 Fox Street.
JAMIESON, THOMAS	. . .	46 Newton Street.
JARVIE, JAMES A.	. . .	58 Eldon Street.
JENKINS, GEORGE	. . .	61 Esplanade.
JOHNSTON, Dr.	. . .	Port-Glasgow.
JOHNSTON, Rev. THOS. F., M.A.	. . .	34 Eldon Street.
KENNEDY, JAMES	. . .	24 Union Street.
KERR, ANDREW	. . .	97 Brisbane Street.
KERR, JOHN	. . .	53 Eldon Street.
KERR, J. S.	. . .	49 Margaret Street.
LANG, JOHN	. . .	65 Eldon Street.
LAURIE, JAMES, M.B., C.M.	. . .	1 Shaw Place.
LEITCH, ARTHUR O.	. . .	8 Newark Street.
LETHAM, JAMES	. . .	63 Union Street.
LINDSAY, A. N.	. . .	63 Newton Street.
LINDSAY, WILLIAM	. . .	77 Union Street.
LOCHHEAD, ROBERT	. . .	Eldon Place, Eldon Street.
LOVE, JOHN	. . .	Royal Bank.
LOVE, JAMES A.	. . .	Do.
LUSK, H. D.	. . .	25 Forsyth Street.
LYLE, ALEX. P.	. . .	105 Finnart Street.
LYLE, J. L.	. . .	109 Finnart Street.
LYLE, ROBERT P.	. . .	107 Finnart Street.
LYON, JAMES	. . .	Sugar Exchange.
MACARTHUR, H. G.	. . .	38 Brisbane Street.
M'CALL, JAMES	. . .	26 Finnart Street.
M'CLURE, JOHN	. . .	66 Union Street.
M'CLURE, WILLIAM, Jun., M.A.	. . .	77 Newton Street.
MACCUNN, JAMES	. . .	37 Ardgowan Street (W.)
MACDONALD, GEORGE	. . .	101 Finnart Street.
MACDONALD, PETER	. . .	99 Finnart Street.
MACDOUGALL, DUGALD	. . .	3 Newark Street.
MACDOUGALL, G. R.	. . .	22 Fox Street.
MACFARLANE, PETER	. . .	Glenclune, Port-Glasgow.
M'GREGOR, J. D.	. . .	48 Cathcart Street.
MACINTOSH, NEIL	. . .	32 Ardgowan Street.
MACINTYRE, JOHN D.	. . .	22 Patrick Street.
MACKAY, EDWARD	. . .	8 George Square.
MACKAY, PETER	. . .	47 Esplanade.
M'KINNON, JOHN	. . .	2 Lyle Street.
MACLEAN, ALEX. S.	. . .	31 Bank Street.
MACLEAN, JAMES	. . .	3 Octavia Terrace.



MACLEAN, JOHN . . . .	3 Octavia Terrace.
M <sup>c</sup> LELLAN, ANDREW . . . .	32 Nelson Street.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.	70 Union Street.
MACPHAIL, JOHN . . . .	5 Kelly Street.
MACPHERSON, Rev. J. F., M.A., B.D.	46 Margaret Street.
MACPHERSON, ROBERT . . . .	56 Forsyth Street.
MARSHALL, W. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MASON, ROBERT . . . .	25 Newark Street.
MOFFAT, G. . . . .	21 Brisbane Street.
MORIES, ALEX. S. . . . .	63 Finnart Street.
MORISON, GEORGE . . . .	43 Finnart Street.
MORTON, ERNEST . . . .	30 Forsyth Street.
MORTON, ROBERT . . . .	30 Forsyth Street.
MUIR, JAMES D. . . . .	47 Brougham Street.
MUIR, ROBERT . . . . .	27 Bentinck Street.
MUMME, CARL . . . . .	30 Newark Street.
MUMME, ERNEST . . . .	Do.
MURDOCH, DAVID L. . . .	7 Octavia Terrace.
MURRAY, GEORGE . . . .	5 Robertson Street.
MURRAY, ROBERT S. . . .	27 Union Street.
NEILL, D. F. D. . . . .	1 Bedford Street.
NEILL, GEO. D. . . . .	26 Forsyth Street.
NEILL, JAMES D. . . . .	68 Finnart Street.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NEILL, WALTER GRIEVE . . . .	Do.
NICOL, DUNCAN . . . . .	2 Octavia Terrace.
NICOL, JAMES . . . . .	32 Margaret Street.
NICOL, JOHN S. . . . .	40 Esplanade.
NIVEN, G. W. . . . .	23 Newton Street.
NIXON, HENRY . . . . .	Miramichi, Port-Glasgow.
ORKNEY, ROBERT . . . . .	63 Octavia Terrace.
PARK, W. U., M.A. . . . .	17 Robertson Street.
PATERSON, JAMES . . . . .	7 Belville Street.
PATERSON, R. R. . . . .	42 Newark Street.
PATON, JAMES, M.D., C.M. . . .	3 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	59 Finnart Street.
PETTIGREW, JOHN, . . . .	29 Finnart Street.
POULTER, THOMAS . . . .	61 Union Street.
PRENTICE, A. R. . . . .	74 Finnart Street.
PRENTICE, DAVID . . . .	66 Finnart Street.
PRENTICE, THOMAS . . . .	41 Ardgowan Street (W.)
PURVIS, F. P., F.R.S.N.A. . . .	Don Villa, Cardwell Bay
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . .	21 Octavia Terrace.
RENNIE, JOHN . . . . .	55 Finnart Street.
RENNIE, ROBERT . . . . .	36 Union Street.
ROBB, ALEXANDER . . . .	Ashcraig, Ashton, Gourrock.
ROBERTSON, Rev. W. LEWIS . . .	64 Finnart Street.
RODGER, JOHN . . . . .	36 Forsyth Street.

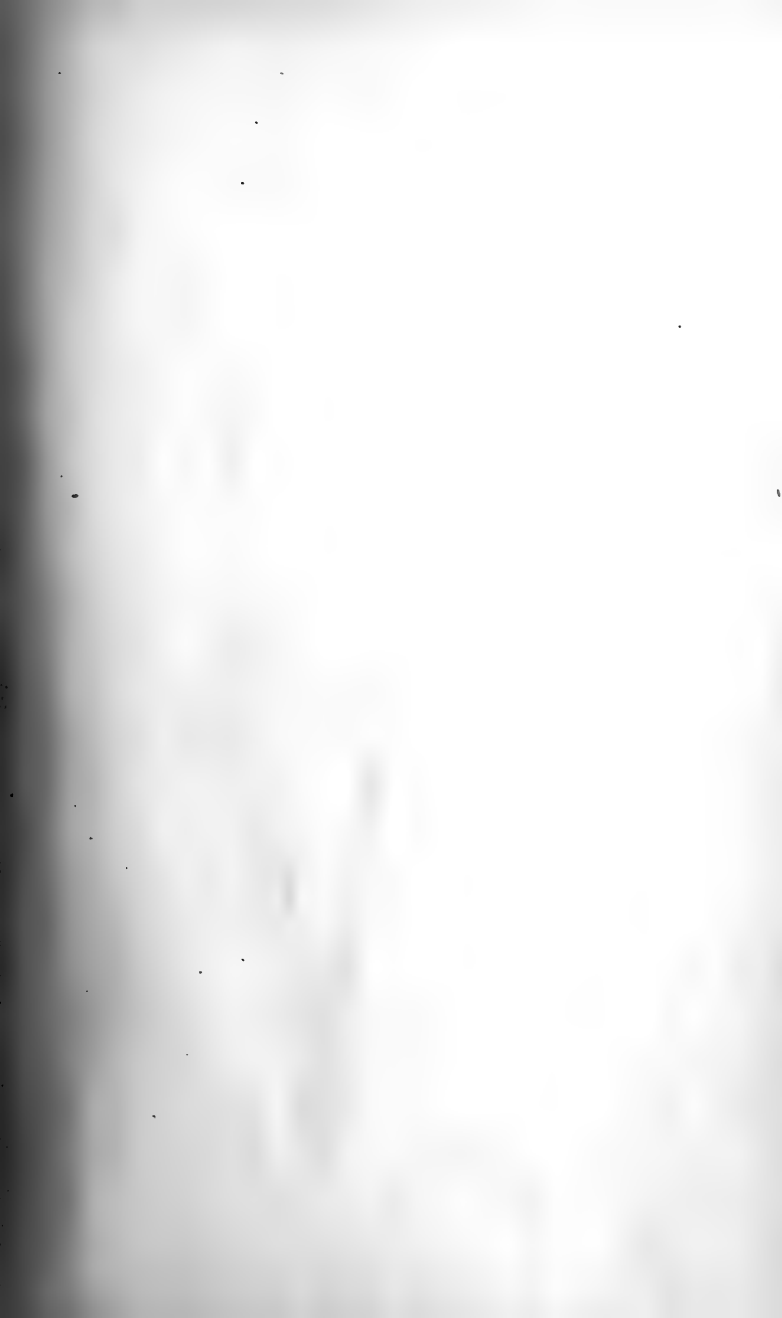
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	Caprera Lodge, Gourrock.
ROSS, P. L.	18 Bogle Street.
ROSS, WILLIAM	63 Esplanade.
ROUGVIE, JAMES	17 Ardgowan Square.
ROWAN, GEORGE	67 Union Street.
ROWAN, JOHN	55 Esplanade.
ROWAN, THOMAS B.	50 Eldon Street.
RUSSELL, JOSEPH	The Knowe.
RUSSELL, JOSEPH WILLIAM	31 Esplanade.
SCOTT, JOHN, C.B., F.R.S.E.	34 Brougham Street.
SCOTT, JOSEPH D.	58 Union Street.
SHANKLAND, DUGALD	8 Madeira Street.
SHEARER, ALEX., Jun.	2 Glen Street.
SHEARER, HUGH	15 Fox Street.
SHEARER, R. B., M.A., LL.B.	97 Finnart Street.
SHEARER, WILLIAM	97 Finnart Street.
SLATER, JAMES, B.A., F.E.I.S.	14 Princes Street.
SMITH, WILLIAM	29 Newton Street.
SOMMERVILLE, R. G.	Aldergrove, Port-Glasgow.
SOWTER, JOHN	149 Eldon Street.
SPEIRS, WILLIAM	4 Glen Street.
STARK, THOMAS	17 Fox Street.
STEELE, JAMES	40 Finnart Street.
STEWART, ANDREW	14 Newark Street.
STEWART, JAMES K.	54 Forsyth Street.
STEWART, SAMUEL	Knocknair, Bogston.
STIRLING, JAMES A.	Lilybank, Cardwell Bay.
STONEHOUSE, S. J.	The Brewers' Sugar Co.
TANNOCK, QUINTIN	17 Ardgowan Street (West).
TAYLOR, H. J.	55 Forsyth Street.
TAYLOR, ROBERT	7 Mount Pleasant Street.
TAYLOR, STAVELEY	Port-Glasgow.
THOM, WILLIAM A.	38 Brisbane Street.
THOMSON, Rev. T. R.	29A Finnart Street.
THORBURN, JAS. G.	4 Newark Street.
THORNE, ROBERT	36 Newark Street.
THORNE, THOMAS M.	51 Octavia Terrace.
WALKER, HUGH W.	Bellevue, Johnstone Street.
WALKER, JOHN	59 Newton Street.
WALKER, JOHN W.	53 Forsyth Street.
WALKER, LOUSON, C.A.	44 Newark Street.
WALLACE, JAMES, M.A., M.D.	16 Union Street.
WATT, WILLIAM	35 Ardgowan Street (West).
WILSON, EDWARD, Jun.	81 Brisbane Street.
WILSON, THOMAS	49 Esplanade.
WILSON, WM. A., M.D., C.M.,	54 Brisbane Street.
WINGATE, J. S.	44 Newark Street.
YOUNG, JAMES	87 Newton Street.
YOUNGER, ROBERT L.	22 Fox Street.



PRESENTED

22 SEP 1978

























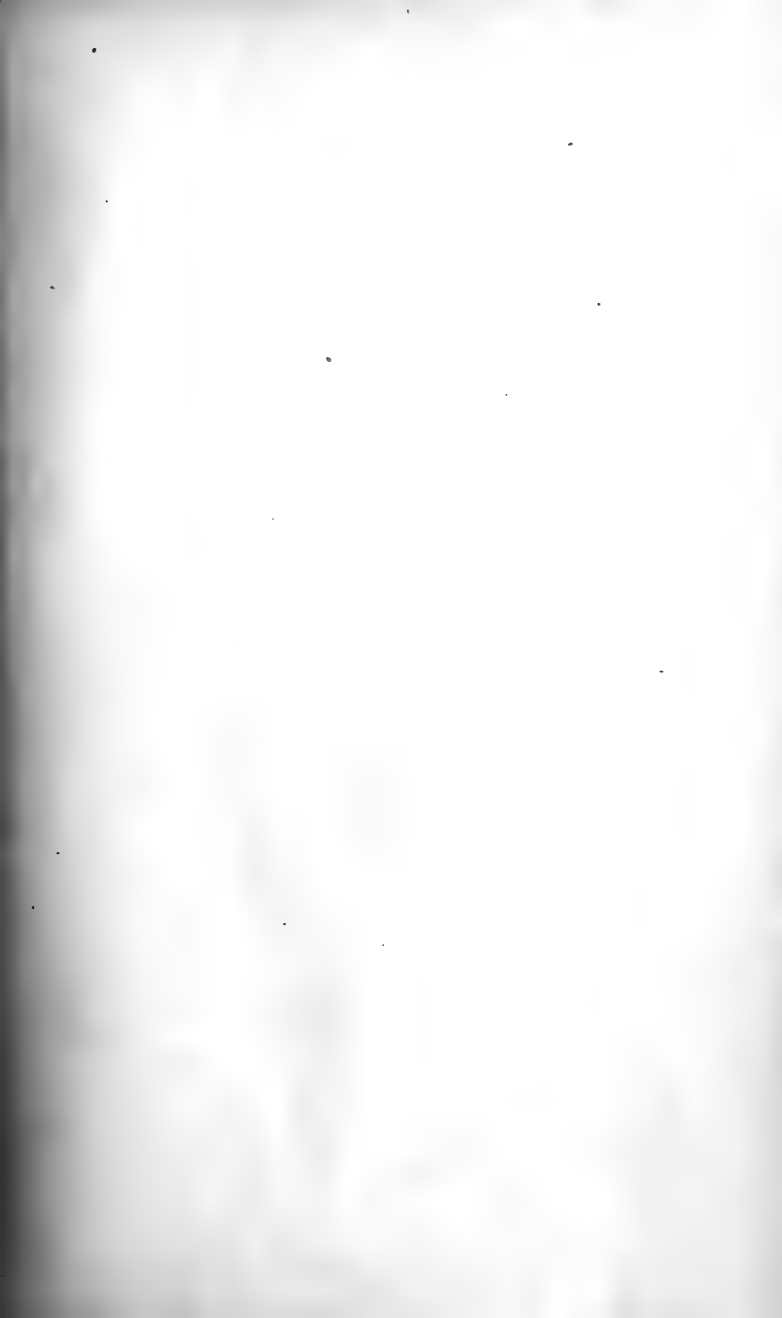














22 SEP 1938

# Thirty-sixth Annual Report

OF THE

—❧ GREENOCK ❧—

## PHILOSOPHICAL SOCIETY

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Session 1896=97.

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GREENOCK:

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1897.



# Thirty-sixth Annual Report

OF THE

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Session 1896-97.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1897.

# Greenock Philosophical Society.

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## OFFICE-BEARERS FOR SESSION 1897-98.

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President—F. P. PURVIS, F.R.S.N.A.

Vice-Presidents— $\left\{ \begin{array}{l} \text{REV. T. F. JOHNSTONE, M.A.} \\ \text{H. J. TAYLOR.} \end{array} \right.$

Treasurer—WILLIAM HARDIE, C.A.

Secretary—ALEXANDER SHEARER.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

MATTHEW BLAKE.

ALEXANDER GEMMELL, M.A.

WILLIAM M'CLURE, M.A.

JAMES NICOLL.

JOSEPH RUSSELL.

J. R. BLACK, M.D.

WILLIAM ADAM.

WILLIAM ADAMSON.

JAMES PATON, M.D.

ARTHUR R. BAIRD.

THOMAS CARMICHAEL.

ALEXANDER ALLAN.

R. L. YOUNGER.

WILLIAM AULD.

GEORGE MURRAY.

MARCUS CALDER, M.D.

G. W. NIVEN.

H. D. LUSK.

ROBERT HAMILTON.

A. CAMPBELL FINLAY.

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### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

Dr. CALDER.

G. W. NIVEN.

H. D. LUSK, *Secretary.*

ROBERT HAMILTON.

A. CAMPBELL FINLAY.

GEORGE MURRAY.

*(Elected by Proprietors of Library.)*

F. D. MORRISON.

ANDREW CARMICHAEL.

D. M. ERSKINE.

JOHN RODGER.

H. W. WALKER, *Chairman.*

R. L. YOUNGER, *Treasurer.*

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*Curator of Museum*—THOMAS RENNIE.



# Thirty-Sixth Annual Report,

SESSION 1896-97.

*Read and approved at the Annual Meeting of the Society held in the Society's Hall, Watt Institution, on 5th March, 1897—  
F. P. Purvis, Esq., President, in the chair.*

## 1.—Statement of Accounts.

### INCOME.

Balance from last Session, - - - - -	-	-	-	-	£102 17 0
238 Members, at 10/6, - - - - -	-	-	-	-	£124 19 0
260 Ladies and Youths, at 3/6, - - - - -	-	-	-	-	45 10 0
					<hr/>
					£170 9 0
Interest on Deposit Receipt, - - - - -	-	-	-	-	1 10 2
					<hr/>
					171 19 2
					<hr/>
					£274 16 2
					<hr/>

### EXPENDITURE.

Lecturers' Fees, - - - - -	-	-	-	-	£136 18 0
Expenses connected with Lectures, - - - - -	-	-	-	-	6 4 6
Museum Committee—Lighting, Heating, and Cleaning Hall, - - - - -	-	-	-	-	10 0 0
Printing, Advertising, and Stationery, - - - - -	-	-	-	-	24 14 6
Collector and Hallkeeper's Allowances and Outlays, - - - - -	-	-	-	-	8 6 5
Secretary's Outlay, - - - - -	-	-	-	-	5 5 7
Treasurer's Outlay, - - - - -	-	-	-	-	0 2 6
					<hr/>
					£191 11 6
Balance on Deposit Receipt with National Bank of Scotland, Ltd., - - - - -	-	-	-	-	83 4 8
Being Balance from last Session, - - - - -	-	-	-	-	£102 17 0
Less Deficiency this Session, - - - - -	-	-	-	-	19 12 4
					<hr/>
As above, - - - - -	-	-	-	-	£83 4 8
					<hr/>
					£274 16 2
					<hr/>

(Signed) W. HARDIE, *Hon. Treasurer.*

GREENOCK, 4th March, 1897.—We have examined the Hon. Treasurer's Accounts, and compared them with the Vouchers, and have found them to be correct, the Balance in Bank (on Deposit Receipt) at the close of the Session amounting to Eighty-three pounds, four shillings, and eight pence.

(Signed) JAS. NICOLL, }  
ROB. HAMILTON, } *Auditors.*

### SCIENCE LECTURE FUND.

The Balance at the credit of this Fund which has arisen from the surplus income derived from the Gilchrist Trust Lectures and the Combe Trust Lectures of former years amounts to £91 13s. 2d.

(Intd.) W. H., *Treas.*

## 11.—Statement of Proceedings.

The Committee has pleasure in submitting to the Members the following Report on the 36th Session of the Society.

For the Session, 238 Members' tickets were taken up—that number being the highest recorded since the commencement of the Society in 1861. The Ladies' and Youths' tickets sold numbered 260, an increase of 3 on those of the preceding Session; and the total tickets sold were 498, as against 492 last year.

With the exception of Mr. W. H. Preece, who delivered the Watt Lecture, all the Lecturers of the Session were paid for their services, and an unusual drain was, in consequence, made upon the funds of the Society, with the result that the balance on hand at the close of the Session was £83 4s. 8d., as compared with £102 17s. last year; but the Committee feels that the heavy expenditure has been amply compensated by the eminence of the Lecturers secured, and the general excellence of the lectures delivered.

The following lectures were delivered during the Session :—

1896.

- Oct. 30.—“*The New Photography.*” Illustrated by Experiments and Lime-Light Views. By J. A. FLEMING, Esq., M.A., D.Sc., F.R.S., Professor of Electrical Engineering in the University College, London.
- Nov. 6.—“*Twenty Thousand Feet above the Sea.*” Illustrated by Lime-Light Views. By EDWARD WHYMPER, Esq., London, Fellow and Patron's Medallist of the Royal Geographical Society.
- „ 13.—“*Home, Sweet Home*”—a Lecture-story. By HALL CAINE, Esq. Author of “The Manxman,” &c., &c.
- „ 20.—“*Music, the Art of the Age.*” With Violin Experiments. By the Rev. H. R. HAWEIS, M.A., Incumbent of St. James's, Marylebone, London.
- „ 27.—“*Sketches of the Antiquities and Scenery of Bosnia-Herzegovina.*” With Lime-Light Illustrations. By ROBERT MUNRO, Esq., M.D., M.A., Edinburgh, Secretary of the Society of Antiquaries of Scotland.

- Dec. 4.—“*Dramatic Recital.*” By ERNEST DENNY, Esq., London.
- „ 11.—“*Life at the Surface of the Water.*” Illustrated by Experimental Lantern Views. By L. C. MIALI, Esq., F.R.S., &c., Professor of Biology in the Yorkshire College, Leeds.
- „ 18.—“*Reviewing: its pros and cons.*” By GEORGE SAINTSBURY, Esq., M.A., Professor of Rhetoric and English Literature in the University of Edinburgh.
- Jan. 22.—<sup>1897.</sup>“*Art in the Workshop.*” Illustrated by Lime-Light Views. By FRANCIS H. NEWBERY, Esq., Headmaster, School of Art, Glasgow.
- „ 29.—“*‘Nationality’ in Music: Real and Unreal.*” With Pianoforte Illustrations. By HAMISH MACCUNN, Esq., London.
- Feb. 5.—WATT ANNIVERSARY LECTURE.—“*Watt and the Measurement of Power.*” By W. H. PREECE, Esq., C.B., F.R.S., Engineer-in-Chief, G.P.O., London.
- „ 12.—“*Curiosities of Bird Life.*” Illustrated by Lantern Slides, specially painted by Mr. J. G. Keulemans. By R. BOWDLER SHARPE, Esq., LL.D., F.L.S., &c., British Museum, London.
- „ 19.—“*Chemistry in the Kitchen.*” Illustrated by Experiments and Lantern Slides. By T. W. DRINKWATER, Esq., Ph.D., F.C.S., &c., Lecturer in Chemistry, Edinburgh School of Medicine.
- „ 26.—“*Some Characteristics of Scott’s Art.*” By HENRY JONES, Esq., M.A., LL.D., Professor of Moral Philosophy in the University of Glasgow.

It was found impossible to carry out the programme as originally issued—Mr. John Scott, who was to have delivered a lecture on 19th February, having been obliged, owing to family bereavement, to ask the Committee to relieve him of his engagement, and there was also a slight re-arrangement of dates of Lecturers and subjects, at the request of one or two of the Lecturers. To replace Mr. Scott, the Committee was fortunate in securing the services of Dr. Drinkwater, one of the Lecturers of the Gilchrist Trust.

The Watt Anniversary Lecture was kindly undertaken by Mr. W. H. Preece, C.B., F.R.S., to whom the best thanks of the Society are due for his able and interesting discourse on “Watt and the Measurement of Power,” for the illustration of which a number of valuable instruments were kindly lent by Lord Kelvin. The date of

the lecture was postponed from 22nd January till 5th February, owing to Mr. Preece's absence on the former date in Malta, where he was engaged in his official capacity. The Committee do not propose to print the lecture, as this is being done by Mr. Preece, who has placed the Society under further obligation to him by kindly offering to supply copies for distribution among the Members. As on former occasions, a number of representatives from the various engineering establishments in the neighbourhood were present, on the invitation of the Committee.

The Committee desires to express its indebtedness to Mr. George Dunlop, who kindly gave his services at the lantern throughout the Session. It is also gratifying to note that, while one of the Lecturers expressed his thanks to Mr. Dunlop publicly, many others did so privately in the Committee-room at the close of the lecture.

In view of the lectures provided by the Y.M.C.A. in the Town Hall, the Committee did not deem it advisable to have a public course this Session, but a proposal has been made to the Gilchrist Trustees, with the view of bringing the Lecturers of that Trust to Greenock next winter. The balance at credit of the Science Lecture Fund is £91 13s. 2d., being practically the same as last year.

Before the commencement of the Session, the Committee completed provisional arrangements for the delivery of an afternoon and an evening Course of Lectures on subjects in English Literature; but on issuing post-cards to large numbers throughout the town likely to be interested in such lectures, the response was so meagre that it was decided to abandon them for the present.

At the meeting held on 28th December, 1896, in terms of the constitution of the Society, the Annual Report of the Committee of the Museum and Hall, of which a summary is appended, was submitted. The vacancies occurring in the Society's representatives in the Museum Committee were filled up by the re-election of Messrs. Robert Muir and A. Campbell Finlay.

The office-bearers whose term now expires are Mr. William Auld, senior Vice-President; Mr. George Murray, Secretary; and the Rev. Dr. Macmillan, and Messrs. Robert Caird, A. N. Lindsay, and H. J. Taylor, members of Committee. With the exception of the Secretary, they are all ineligible for re-election to the same office for twelve months. It is with much regret that the Committee has

received intimation from Mr. Murray of his intention of retiring at this time from the office of Secretary, which he has held with much acceptance for the last six years, and they desire to place on record the indebtedness of the Society to him for his valuable services.

It is with deep regret that the Committee has to report that a vacancy has also occurred through the death of Mr. Robert Muir, one of the Society's representatives on the Museum Committee, who for many years took an active interest in the Society, and held office as a Vice-President in the thirty-first and thirty-second Sessions.

The proceedings of the following Societies were received during the Session :—Canadian Institute, Toronto ; Institution of Junior Engineers, London ; and Glasgow Philosophical Society.



## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1896.

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A large number of additions have been made to the Museum collection. For these the Committee is chiefly indebted to various friends. Among the gifts are a walrus head and tusks from Franz Josef Land, brought to London by the S.S. "Windward"; some bird's nests, with eggs; and several books and valuable works of reference.

The Trustees of South Kensington Museum have renewed three cases of exhibits with iron work, electro-types, and Indian armour, and to them the Committee is further indebted for the model of the steam yacht "Livadia," which was built for Alexander II., late Emperor of Russia.

The collection of British Birds in the Museum is at present being re-arranged according to Dr. Bowdler Sharpe's recent classification.

The collection of British Birds' Eggs makes steady, if somewhat limited, progress. In this, as in other matters, the Committee has been hampered by a burden of debt, which, however, it is satisfactory to notice, is now greatly reduced.

The Museum and its contents were re-valued this year, and the result proves the buildings to be more valuable, to the extent of £1,143, than at the last valuation.

The incandescent gas light has been adopted for the lighting of the Museum to some extent, and the gas service pipes, which on examination proved to be much corroded, have been thoroughly cleaned. A new main has been laid from Union Street, and the Museum and Hall are now amply supplied with gas.

Several of the oil paintings in the Lecture Hall have been cleaned, while some additions have been made to the collection, and the Committee is indebted this year for a loan of three paintings from the South Kensington authorities.

A great deal of work has been accomplished in connection with the upkeep and repair of the furniture and fittings of the Museum and Hall, and the Curator and his assistant are at present constructing a new south wall case and an upright case for the gallery.

The number of visitors to the Museum during the year was over 17,000.

The receipts for the year exceeded the expenditure by £43 15s. 4d., which was applied towards reduction of the debt, which at the beginning of the year was £44 13s. 8d., and now amounts to only 18s. 4d.



# LIST OF MEMBERS FOR 1896-97.

## I.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
JAMES B. STEPHENS, . . . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L., . . . . .	1865
Sir ANDREW NOBLE, C.B., F.R.S., . . . . .	1892

## II.—Ordinary Members.

ADAM, JOHN . . . . .	29a Finnart Street.
ADAM, R. G. . . . .	Hollybank, Madeira Street.
ADAM, WILLIAM . . . . .	12 Newark Street.
ADAMSON, Rev. JAMES, M.A. . . . .	100 Brisbane Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES . . . . .	1 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank.
ALLAN, ALEXANDER, C.A. . . . .	67 Newton Street.
ALLAN, GEORGE J. . . . .	9 Esplanade.
ALSTON, R. L. . . . .	22 Margaret Street.
ANDERSON, J. WALLACE . . . . .	67 Union Street.
ARCHIBALD, THOMAS P. . . . .	51 Brisbane Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAIRD, ARTHUR R. . . . .	24 Brisbane Street.
BATHGATE, ALEXANDER . . . . .	21 Newton Street.
BEGG, J. HENDERSON . . . . .	Thorndean House.
BENSON, MICHAEL . . . . .	6 Bank Street.
BENSON, ROBERT . . . . .	6 Bank Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, JOHN . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M. . . . .	37 Union Street.
BLAKE, MATTHEW . . . . .	60 Forsyth Street.
BORTHWICK, THOMAS . . . . .	66 Newton Street.
BOWDEN, JOHN . . . . .	6 Brisbane Street.
BOYD, Miss SARAH G. . . . .	39 Union Street.



BROWN, M. M'C.	67 Eldon Street.
BRYSON, WILLIAM K.	159 Eldon Street.
BUCHANAN, ROBERT	74 Finnart Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire.
CAIRD, ROBERT, F.R.S.E.,	5 Newark Street.
CALDER, MARCUS, M.D.	12 Union Street.
CAMPBELL, DUNCAN	49 Brougham Street.
CARMICHAEL, ANDREW	34 Forsyth Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	35 Esplanade.
CARMICHAEL, WM. H.	76 Finnart Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, CHARLES W.	7 Bentinck Street.
COLQUHOUN, DUNCAN	2 Finnart Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
CRAWFORD, JAMES	2 Wellington Street.
CRAWFORD, THOMAS	61 Brisbane Street.
CUNNINGHAM, T. A.	87 Brisbane Street.
CURTIS, C. H.	27 Octavia Terrace.
CURTIS, W. H.	38 Newark Street.
DAVIE, ROBERT, Jun.	4 Fox Street.
DEMPSTER, DUNCAN-F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DICK, GEORGE	28 Mearns Street.
DICKSON, W. A.	13 Brisbane Street.
DONALD, JAMES	24 Forsyth Street.
DOUGLAS, Mrs.	58 Union Street.
DOUGLAS, T. N.	155 Eldon Street.
DUNCAN, JOHN	Ardenclutha, Port-Glasgow.
DUNLOP, M. F.	95 Newton Street.
ERSKINE, D. M.	Finnart Grove.
FERGUSON, ALEXANDER BELL	20 Finnart Street.
FINLAY, A. CAMPBELL	62 Esplanade.
FINLAY, Miss HELEN	56 Esplanade.
FISHER, WILLIAM A.	40 Forsyth Street.
FULLARTON, HUGH	103 Finnart Street.
FYFE, JOHN P.	103 Eldon Street.
GEMMELL, ALEXANDER, M.A.	Greenock Academy.

GIBSON, CHARLES R.	153 George Street, Paisley.
GILMOUR, R. S.	75 Union Street.
GLEN, JAMES	19 Octavia Terrace.
GRAHAM, JAMES	Martin Terrace, 3 Finnart Street.
GRIER, THOMAS	22 Brisbane Street.
HAIR, WILLIAM	33 Union Street.
HAMILTON, ROBERT	27 Bentinck Street.
HARDIE, WILLIAM, C.A.	60 Esplanade.
HART, J. CAMPBELL	Finnart House.
HARVIE, R. D. N.	40 Nicolson Street.
HASTIE, WILLIAM	78 Finnart Street.
HENDERSON, W. F.	27 Finnart Street.
HILL, JAMES H.	25 Forsyth Street.
HILL, J. M.	52 Esplanade.
HOOD, JOHN	Ivybank, Port-Glasgow.
HOPE, JOHN	Glennuek, Port-Glasgow.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	93 Eldon Street.
HOUSTON, R. H.	40 Newark Street.
HUTCHISON, JAMES H.	63 Finnart Street.
HYNDMAN, JOHN G.	6 Fox Street.
JACK, JOHN	6 Wellington Street.
JAMIESON, THOMAS	46 Newton Street.
JENKINS, GEORGE	61 Esplanade.
JOHNSTONE, Rev. THOS. F., M.A.	34 Eldon Street.
KENNEDY, JAMES	24 Union Street.
KERR, ANDREW	97 Brisbane Street.
KERR, JAMES	15 Robertson Street.
KERR, JOHN	53 Eldon Street.
KERR, JOHN G.	17 Octavia Terrace.
KERR, J. S.	49 Margaret Street.
LANG, JOHN	65 Eldon Street.
LAURIE, JAMES, M.B., C.M.	1 Shaw Place.
LAURIE, WILLIAM	5 Robertson Street.
LEITCH, ARTHUR O.	8 Newark Street.
LEWIS, L. E.	4 Bedford Street.
LINDSAY, A. N.	63 Newton Street.
LINDSAY, Miss	9 Ardgowan Square.
LINDSAY, WILLIAM	77 Union Street.
LOCHHEAD, ROBERT	63 Union Street.

LOVE, JOHN . . . .	Royal Bank.
LOVE, JAMES A. . . .	Do.
LUSK, H. D. . . . .	25 Forsyth Street.
LYLE, ALEX. P. . . . .	105 Finnart Street
LYLE, J. L. . . . .	109 Finnart Street.
LYLE, ROBERT P. . . .	107 Finnart Street.
M'CLURE, JOHN . . . .	66 Union Street.
M'CLURE, WILLIAM, M.A. .	77 Newton Street.
MACCUNN, JAMES . . . .	37 Ardgowan Street (W.)
MACDONALD, GEORGE . . .	101 Finnart Street.
MACDONALD, PETER . . .	99 Finnart Street.
MACDOUGALL, DUGALD . .	3 Newark Street.
MACDOUGALL, G. R. . . .	22 Fox Street.
MACFARLANE, Miss . . . .	Glenclunc, Port-Glasgow.
MACFARLAN, Miss . . . .	75 Union Street.
M'GREGOR, J. D. . . . .	48 Cathcart Street.
MACINTOSH, NEIL . . . .	32 Ardgowan Street.
MACINTYRE, DONALD . . .	Mansionhouse, Ardgowan Square.
MACINTYRE, JOHN D. . . .	22 Patrick Street.
MACKAY, EDWARD . . . .	8 George Square.
MACKELLAR, PETER . . . .	Parklea, 45 Finnart Street.
M'KINNON, JOHN . . . .	2 Lyle Street.
MACLEAN, ALEX. S. . . . .	31 Bank Street.
MACLEAN, JAMES . . . .	3 Octavia Terrace.
MACLEAN, RONALD . . . .	27 Mearns Street.
M'LELLAN, ANDREW . . . .	32 Nelson Street.
M'LEOD, Miss MARY L. . .	61 Finnart Street.
MACMICHAEL, Rev. DAVID C., B.D.	19 Caddlehill Terrace.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.	70 Union Street.
MACMILLAN, Mrs. JOHN . . .	8 Margaret Street.
M'NEIL, CHARLES . . . .	South Cliff, Wemyss Bay.
M'NEIL, JAMES . . . . .	32 Ardgowan Street (W.)
MACPHAIL, JOHN . . . . .	5 Kelly Street.
MACPHERSON, D. . . . .	33 Ardgowan Street (W.)
MACPHERSON, ROBERT . . .	56 Forsyth Street.
MARSHALL, CLAUD W., M.B., C.M.	8 Ardgowan Square.
MARSHALL, W. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MARTIN, WILLIAM . . . . .	23 Finnart Street.
MASON, ROBERT . . . . .	25 Newark Street.

MEYER, VICTOR C.	. . .	56 Finnart Street.
MILLER, THOMAS	. . .	18 Finnart Street.
MORIES, JAMES S.	. . .	51 Newton Street.
MORTON, ERNEST	. . .	2 Eldon Street.
MORTON, ROBERT	. . .	1 Wood Street.
MUIR, JAMES D.	. . .	47 Brougham Street.
MUIR, ROBERT	. . .	63 Eldon Street.
MUMME, CARL	. . .	30 Newark Street.
MURDOCH, DAVID L.	. . .	42 Newark Street.
MURRAY, GEORGE	. . .	5 Robertson Street.
NEILL, D. F. D.	. . .	1 Bedford Street.
NEILL, GEO. D.	. . .	26 Forsyth Street
NEILL, JAMES D.	. . .	68 Finnart Street.
NEILL, JOHN, M.A.	. . .	1 Bedford Street.
NEILL, ROBERT	. . .	26 Newark Street.
NEILL, ROBERT GRIEVE	. . .	1 Bedford Street.
NEILL, WALTER GRIEVE	. . .	Do.
NEILL, WILLIAM J.	. . .	13 Octavia Terrace.
NICOL, DUNCAN	. . .	2 Octavia Terrace.
NICOL, JOHN S.	. . .	40 Esplanade.
NICOLL, JAMES	. . .	32 Margaret Street.
NIVEN, G. W.	. . .	23 Newton Street.
NIXON, HENRY	. . .	30 Ardgowan Street (W.)
ORKNEY, ROBERT	. . .	63 Octavia Terrace.
PARK, W. U., M.A. (Cantab.),	. . .	52 Brougham Street.
PATERSON, JAMES	. . .	7 Belville Street.
PATERSON, S. R.	. . .	33 Margaret Street.
PATON, JAMES, M.D., C.M.	. . .	3 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	. . .	59 Finnart Street.
PETTIGREW, JOHN	. . .	149 Eldon Street.
POWELL, Lieut. EDWARD P., R.N.,	. . .	24 Finnart Street.
PRENTICE, A. R.	. . .	74 Finnart Street.
PRENTICE, DAVID	. . .	66 Finnart Street.
PRENTICE, THOMAS	. . .	41 Ardgowan Street (W.)
PURVIS, F. P., F.R.S.N.A.	. . .	Don Villa, Cardwell Bay
RAMSAY, CHARLES G.	. . .	49 Octavia Terrace.
RAMSAY, G. A.	. . .	37 Fox Street.
RANKIN, JOHN F.	. . .	21 Octavia Terrace.
RANKIN, MATTHEW	. . .	21 Octavia Terrace.
REID, W. CLARK	. . .	33 Ardgowan Street (W.)

RENNIE, WILLIAM JOHN . . .	55 Finnart Street.
RENNIE, ROBERT . . .	36 Union Street.
RICHARDS, WILLIAM . . .	Stewarton, Patrick Street.
RICHMOND, Mrs. Dr. . . .	21 Patrick Street.
ROBERTSON, Rev. W. LEWIS, M.A.,	64 Finnart Street.
RODGER, ANDERSON . . .	Glenpark, Port-Glasgow.
RODGER, JOHN . . .	36 Forsyth Street.
RORISON, THOMAS D. . .	24 Roxburgh Street.
ROSS, HEW RAMSAY . . .	Floral Bank, Cove Gardens, Gourock.
ROSS, P. L. . . .	2 George Square.
ROWAN, GEORGE . . .	67 Union Street.
ROWAN, R. HOUSTON . . .	50 Eldon Street.
ROWLEY, THOMAS . . .	Eldon Place.
RUSSELL, JOSEPH . . .	The Knowe.
SCOTT, JOHN, C.B., F.R.S.E. . .	34 Brougham Street.
SERVICE, JOHN . . .	56 Regent Street.
SERVICE, WILLIAM . . .	56 Regent Street.
SHANKLAND, D. COWAN . . .	8 Madeira Street.
SHANKLAND, DUGALD . . .	Do.
SHEARER, ALEX. . . .	2 Glen Street.
SHEARER, R. B., M.A., LL.B. . .	97 Finnart Street.
SHERIDAN, ROBERT . . .	4 South Street.
SINCLAIR, JAMES . . .	59 Brisbane Street.
SLATER, JAMES, B.A., F.E.I.S. . .	14 Princes Street.
SMITH, HECKSTALL . . .	18 Eldon Street.
SOMMERVILLE, Miss . . .	Aldergrove, Port-Glasgow.
SPIERS, ALEXANDER J. . . .	4 Glen Street.
STEELE, JAMES . . .	40 Finnart Street.
STEWART, ANDREW . . .	14 Newark Street.
STEWART, JAMES K. . . .	82 Union Street.
STEWART, SAMUEL . . .	Knocknair, Bogston.
SUGDEN, Rev. HERBERT JAMES . .	62 Newton Street.
TANNOCK, QUINTIN . . .	17 Ardgowan Street (W.)
TAYLOR, H. J. . . .	55 Forsyth Street.
TAYLOR, STAVELEY . . .	4 Lyle Street.
TERRAS, J. SINCLAIR . . .	3 Finnart Street.
THOM, WILLIAM A. . . .	38 Brisbane Street.
THORBURN, JAS. G. . . .	4 Newark Street.
THORNE, ROBERT . . .	36 Newark Street.

THORNE, THOMAS M.	. . .	51 Octavia Terrace.
TODD, WILLIAM S.	. . .	25 Nelson Street (W.)
WALKER, HUGH W.	. . .	Bellevue, Johnstone Street.
WALKER, JOHN .	. . .	59 Newton Street.
WALKER, LOUSON, C.A.	. . .	44 Newark Street.
WALLACE, DUNCAN M.	. . .	23 Ardgowan Street (W.)
WALLACE, JAMES, M.A., M.D.	. . .	16 Union Street.
WATSON, W. S. .	. . .	33 Union Street.
WATT, WILLIAM . . .	. . .	32 Forsyth Street.
WILLIAMSON, ALEXANDER .	. . .	55 Esplanade.
WILSON, THOMAS . . .	. . .	49 Esplanade.
WILSON, WM. A., M.D., C.M.,	. . .	54 Brisbane Street.
WINGATE, J. S. .	. . .	72 Eldon Street.
YOUNGER, ROBERT L.	. . .	22 Fox Street.





PRESENTED

22 SEP 1938



22 SEP 1938



# Thirty-Seventh Annual Report

OF THE

## GREENOCK

## PHILOSOPHICAL SOCIETY

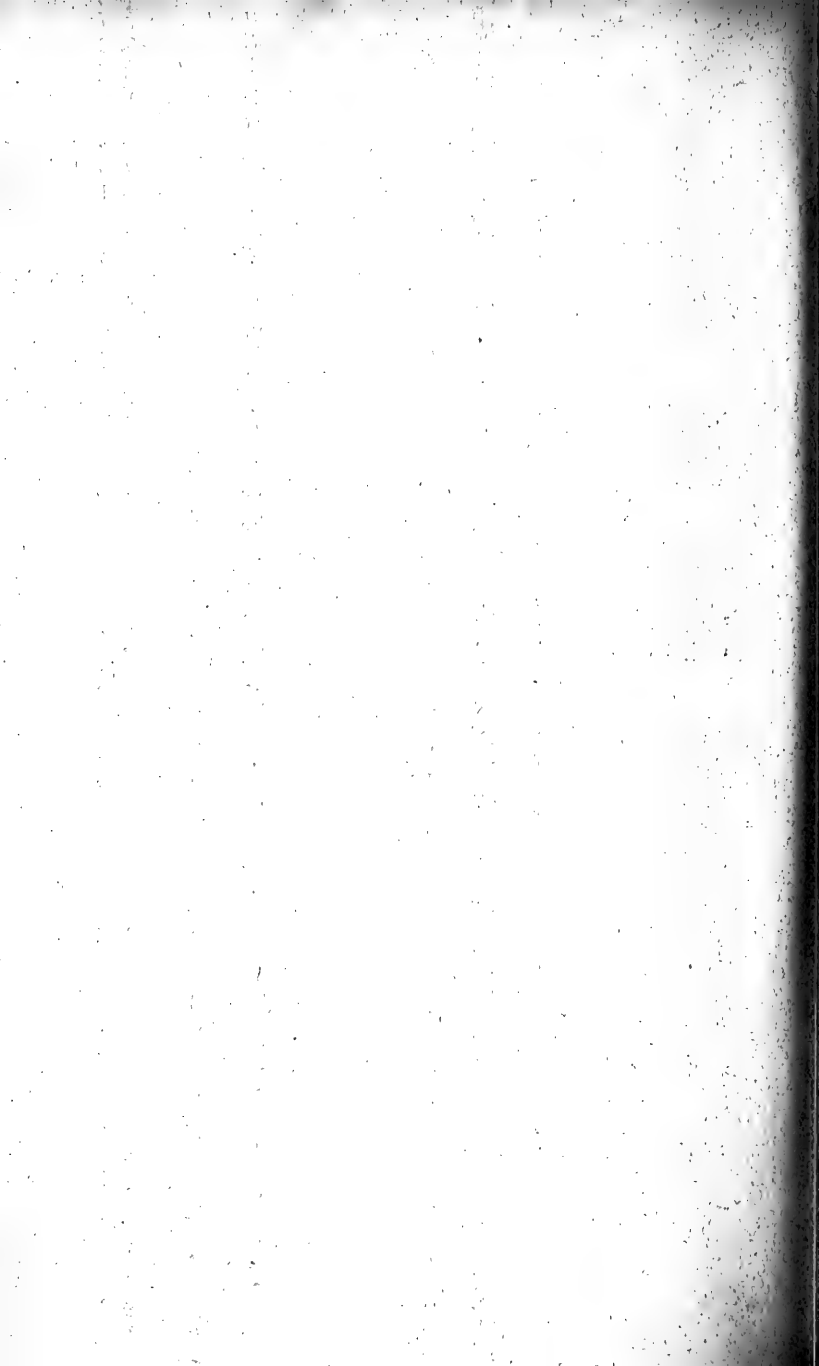
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Session 1897-98.

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GREENOCK :

PRINTED BY ORR, POLLOCK & Co., CHARLES STREET.



# Thirty-Seventh Annual Report

OF THE

## GREENOCK

## PHILOSOPHICAL SOCIETY

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Session 1897-98.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1898-99.

President—REV. T. F. JOHNSTONE, M.A.

Vice-Presidents— { H. J. TAYLOR.  
                              { WILLIAM M'CLURE, M.A.

Treasurer—WILLIAM HARDIE, C.A.

Secretary—ALEXANDER SHEARER.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

J. R. BLACK, M.D.

WILLIAM ADAM.

WILLIAM ADAMSON.

JAMES PATON, M.D.

ARTHUR R. BAIRD.

THOMAS CARMICHAEL.

ALEXANDER ALLAN.

R. L. YOUNGER.

WILLIAM AULD.

\*GEORGE MURRAY.

F. P. PURVIS.

WILLIAM COOK, B.A.

J. W. ANDERSON.

ROBERT G. NEILL, M.A.

HECKSTALL SMITH.

\*H. D. LUSK.

\*ROBERT HAMILTON.

\*A. CAMPBELL FINLAY.

\*MARCUS CALDER, M.D.

\*G. W. NIVEN.

\* *Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

H. D. LUSK, *Secretary.*

ROBERT HAMILTON.

A. CAMPBELL FINLAY.

GEORGE MURRAY.

MARCUS CALDER, M.D.

G. W. NIVEN.

*(Elected by Proprietors of Library.)*

F. D. MORRISON.

ANDREW CARMICHAEL.

D. M. ERSKINE.

JOHN RODGER.

H. W. WALKER, *Chairman.*

R. L. YOUNGER, *Treasurer.*

*Curator of Museum*—THOMAS RENNIE.

# Thirty-Seventh Annual Report,

SESSION 1897-98

*Read and approved at the Annual Meeting of the Society held in the Society's Hall, Watt Institution, on 4th March, 1898—  
F. P. Purvis, Esq., President, in the chair.*

## Statement of Accounts.

### INCOME.

Balance from last Session, - - - - -		£83 4 8
218 Members' Tickets, at 10/6, - - - - -	£114 9 0	
249 Ladies' and Youths' Tickets, at 3/6, - - - - -	43 11 6	
	£158 0 6	
Interest on Deposit Receipt, - - - - -	1 0 5	
Income for year, - - - - -		159 0 11

£242 5 7

### EXPENDITURE.

Lecturers' Fees, - - - - -		£94 15 0
Expenses in connection with Lectures, - - - - -		4 7 7
Museum Committee—Lighting and Heating Hall, - - - - -		10 0 0
Printing, Advertising, and Stationery, - - - - -		18 14 6
Collector and Hallkeeper's Allowances and Outlays, - - - - -		7 15 6
Secretary's Outlay, - - - - -		3 17 6
Treasurer's Outlay, - - - - -		0 2 6
Expenditure for year, - - - - -		£139 12 7
Balance on Deposit Receipt with National Bank, - - - - -		102 13 0
Consisting of—Balance from last Year, - - - - -	£83 4 8	
Surplus this Year, - - - - -	19 8 4	
	£102 13 0	

£242 5 7

(Signed) WM. HARDIE, *Hon. Treasurer.*

GREENOCK, 3rd March, 1898.—We have examined the Hon. Treasurer's Accounts, and compared them with the Vouchers, and have found them to be correct. The Balance in Bank (on Deposit Receipt) at the close of the Session amounts to One Hundred and Two pounds thirteen shillings.

(Signed) WM. ADAM, }  
WM. ADAMSON, } *Auditors.*

### SCIENCE LECTURE FUND.

Balance at close of last year, - - - - -		£91 13 2
Deduct—Expenditure for year 1897-98, viz.:—		
Contribution towards Fees of Gilchrist Trust Lecturers, £50 0 7		
Expenses of Lectures, per Audited Statement, - - - - -	55 1 0	
Less Income, viz.:—		£105 1 7
Tickets, per above Statement, - - - - -	£56 12 2	
Interest, - - - - -	0 15 10	
	57 8 0	
		47 13 7
Balance at credit of the Fund, - - - - -		£43 19 7

GREENOCK, 2nd March, 1898. (Signed) WM. HARDIE, *Hon. Treas.*

## Statement of Proceedings.



The Committee has pleasure in submitting to the Members the Thirty-seventh Annual Report.

The number of Members has been somewhat less than for several years past, but the attendance at the lectures throughout the session has been very satisfactory. Of Members' tickets there were 218 sold, and of Ladies' and Youths' tickets, 249; as compared with 238 and 260 in the preceding year.

It will be seen from the Treasurer's Statement that the income has more than met the year's expenditure, and that the balance on hand has been increased from £83 4s. 8d. to £102 13s.

The following were the lectures delivered during the Session :—

1897.

- Nov. 5.—“*Soap Bubbles.*” With Experiments. By C. V. BOYS, Esq., Assistant Professor of Physics, Royal College of Science, London.
- „ 12.—“*The Mental Effects of our Environment.*” By T. S. CLOUSTON, Esq., M.D., F.R.C.P.E., Lecturer on Mental Diseases in the University of Edinburgh.
- „ 19.—“*The Songs of Schubert: their History and their Influence.*” With Vocal Illustrations. By Miss WAKEFIELD, London.
- „ 26.—“*The Scottish Border.*” Illustrated with Lime-Light Views. By ANDREW D. BARRIE, Esq., M.B., C.M., Greenock.
- Dec. 3.—“*Wonders and Romance of Insect Life.*” With Lime-Light Illustrations. By FRED. ENOCK, Esq., F.L.S., F.E.S.
- „ 10.—“*The New Far East.*” Illustrated with Slides from Snap Shots taken in Camp and in Battle by Japanese Officers. By ARTHUR DIÓSY, Esq., K.C. of Rising Sun of Japan, &c.
- „ 17.—“*Telegraphy without Wires.*” With Experiments. By RICHARD KERR, Esq., F.G.S.

1398.

- Jan. 28.—“*The Courtier: A Sixteenth Century Ideal.*” By WALTER A. RALEIGH, Esq., M.A., Professor of Modern Literature, University College, Liverpool.
- Feb. 4.—“*Travel and Adventure in South Africa.*” Illustrated with Lime-Light Views and Hunting Trophies. By FREDERICK COURTENEY SELOUS, Esq., Gold Medallist of the Royal Geographical Society, &c.
- „ 11.—“*Humour in Art.*” Illustrated with numerous Lantern Pictures. By J. F. O’HEA, Esq. (“Spex.”)
- „ 18.—“*Gold, and How it is Obtained.*” With Lime-Light Illustrations. By A. HUMBOLDT SEXTON, Esq., F.C.S., F.I.C., &c., Professor of Metallurgy, Glasgow and West of Scotland Technical College.
- „ 25.—“*The American Humorists.*” By GEORGE MIDDLETON, Esq., M.A., LL.B., Glasgow.

The Committee desire to express the thanks of the Society to Dr. Barrie for his lecture.

The Watt Anniversary Lecture for 1898 was very kindly undertaken by Professor T. E. Thorpe, D.Sc., LL.D., F.R.S., Director of the Government Laboratory, London, who has chosen as his subject, “Watt and the Discovery of the Composition of Water.” Owing to illness Professor Thorpe was unable to come to Greenock at the customary date in January, but he has arranged to deliver his lecture to the Society on Friday, 11th March.\*

The only other alteration in the programme was necessitated by the illness of Mr. A. T. Quiller Couch, whose place was taken by Mr. George Middleton, Glasgow.

In last Annual Report it was mentioned that an application had been made to the Gilchrist Trustees for another course of popular Science Lectures in Greenock. The Trustees explained that the applications from different places far exceeded what they could undertake with the funds at their disposal, but offered to provide four lectures, if the Society paid £50 towards the lecturers’ fees. The Committee considered that this sum might very properly be

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\* NOTE.—Professor Thorpe’s Lecture was delivered on the date named, and is to be printed as one of the papers of the Society.

taken out of the £91 13s. 2d. which had accumulated from previous Science Lectures, and agreed to the proposal. A report of the Course is appended. The lectures were admirable, and the penny seats were fully occupied; but fewer tickets for the reserved seats were bought than was expected, and, in consequence, little of the £50 has been got back. The balance at credit of the Science Lecture Fund now stands at £43 19s. 7d. The Committee have to acknowledge their indebtedness in this matter to Mr. George Murray, who acted as Secretary to the Course, and to whose exertions both its inception and its practical success were in great measure due.

At the meeting held on 27th December, 1897, in terms of the constitution of the Society, the Annual Report of the Committee of the Museum and Hall was submitted and adopted. The retiring representatives of the Society in the Museum Committee—Dr. Calder and Mr. G. W. Niven—were re-elected.

The Office-bearers of the Society whose term now expires are :—Mr. F. P. Purvis, President; the Rev. T. F. Johnstone, Vice-President; Mr. William Hardie, Treasurer; and Messrs. Matthew Blake, Alexander Gemmell, William M'Clure, James Nicoll, and Joseph Russell, Members of Committee. With the exception of the Treasurer, all are ineligible for re-election to the same office for twelve months.

At the close of Mr. Purvis's period of office, the Committee wish to record their appreciation of the many valuable services he has rendered to the Society.

The Proceedings of the following Societies have been received during the year :—Canadian Institute, Toronto; Institution of Junior Engineers; Glasgow Philosophical Society.



## Summary of Report of Gilchrist Trust Lectures.

The lectures were delivered in the Town Hall as follows :—

1897.	ATTENDANCE (Approximate).	
Sept. 30—"Our Atmosphere and its Relation to Life," by	Professor V. B. Lewes, - - - - -	
		2195
Oct. 14—"Invisible Rays," by Dr. A. P. Laurie,	- -	2382
" 28—"Nature's Armoury: Some Defences and Devices of Animal Life," by Dr. Andrew Wilson,	- -	2350
Nov. 11—"The Pond and its Minute Inhabitants," by Rev.	Dr. Dallinger, - - - - -	
		2566

A large Committee was formed to make arrangements, numbering in all about eighty, and containing representatives from the Magistrates, the Philosophical Society, the Mechanics' Institute, and the various public works. The price of the tickets for the Course was fixed at 4d. for unreserved seats (in accordance with the rules of the Trust), and 2s. 6d. for reserved seats. Through the members of Committee and otherwise, nearly 2,600 tickets were sold. Of these, only 109 were for reserved seats, being less than half the number available. The Committee had hoped, by the sale of the reserved seat tickets, to recover a considerable part of the £50 advanced towards lecturers' fees; but the actual income did little more than meet the other expenses. With this exception, the Course was in every way successful. At the close of the last lecture a vote of thanks was passed to the Gilchrist Trustees for sending their lecturers to Greenock for the third time.

## Summary of Report of Committee of Museum and Lecture Hall,

For Year ending 31st December, 1897.

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The Museum Committee is indebted to generous friends for many additions to the Museum.

To the Ornithological Collection a number of birds and nearly 300 eggs have been presented. The Entomological Collection has been enlarged by the purchase of over 1,000 species of Coleoptera (British beetles). To the Geological Department a number of specimens of local rocks have been added by donation; and a number of plaster casts of fossils belonging to the Silurian, Devonian, Jurassic, and Triassic formations, by purchase.

The former loans from South Kensington have been replaced with three cases containing examples of wood carving, textile fabrics, and electrotypes. A loan has also been received of photographs of a great many models constructed by James Watt in connection with the steam engine and other mechanical appliances; and twelve pictures and four cartoons from South Kensington at present help to adorn the walls of the Lecture Hall.

A wall case has been added on the ground floor of the Museum and a standing case in the gallery.

The facilities for exit from the Lecture Hall have been greatly increased by arranging that the door opposite the entrance and also the door into the Museum shall be available as "Emergency Exits." The drains on the east side of the hall and the lavatories have been put in order, and an incandescent burner has been fitted to the lamp over the gateway.

The usual cleaning and rearrangement was effected in August, during which month the Museum was closed, but a number of visitors were admitted on application to the Curator.

It is satisfactory to note that the financial year ended with a credit balance of £18 9s. 2d. This has, however, been already expended on the alterations above mentioned.

The number of visitors for the year was about 20,000.

## LIST OF MEMBERS FOR 1897-98.

### I.—Honorary Members.

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
JAMES B. STEPHENS, . . . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L., . . . . .	1865
Sir ANDREW NOBLE, C.B., F.R.S., . . . . .	1892

### II.—Ordinary Members:

ADAM, JOHN . . . . .	29a Finnart Street.
ADAM, R. G. . . . .	Hollybank, Madeira Street.
ADAM, WILLIAM . . . . .	12 Newark Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES . . . . .	1 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank.
ALLAN, ALEXANDER, C.A. . . . .	38 Margaret Street.
ANDERSON, J. WALLACE . . . . .	67 Union Street.
ARCHIBALD, THOMAS P. . . . .	51 Brisbane Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAIRD, ARTHUR R. . . . .	44 Brisbane Street.
BARRIE, ANDREW D., M.B., C.M., . . . . .	119 Eldon Street.
BATHGATE, ALEXANDER . . . . .	21 Newton Street.
BEGG, J. HENDERSON . . . . .	Thorndean House.
BENSON, ROBERT . . . . .	6 Bank Street.
BENNETT, J. W. . . . .	39 Finnart Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, GEORGE H., B.L., . . . . .	9 Forsyth Street.
BLACK, JOHN . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M. . . . .	37 Union Street.
BLAKE, MATTHEW . . . . .	62 Forsyth Street.
BOWDEN, JOHN . . . . .	8 Brisbane Street.
BOYD, Miss SARAH G. . . . .	39 Union Street.
BROWN, J. A. . . . .	33 Brisbane Street.
BROWN, M. M <sup>c</sup> C. . . . .	67 Eldon Street.

BUCHANAN, ROBERT . . . .	2 Fox Street.
CAIRD, COLIN S. . . . .	13 Newark Street.
CAIRD, PATRICK T. . . . .	Belleaire, 15 Newark Street.
CAIRD, ROBERT, F.R.S.E., . . . .	5 Newark Street.
CALDER, MARCUS, M.D. . . . .	12 Union Street.
CAMERON, Sir CHARLES. Bart. . . .	Balclutha, Newark Street.
CAMPBELL, DUNCAN . . . . .	49 Brougham Street.
CARMICHAEL, ANDREW . . . . .	34 Forsyth Street.
CARMICHAEL, J. D. M. . . . .	93 Finnart Street.
CARMICHAEL, R. D. . . . .	93 Finnart Street.
CARMICHAEL, THOMAS . . . . .	40 Ardgowan Street (W.)
CARMICHAEL, WM. H. . . . .	76 Finnart Street.
CLERK, DUNCAN . . . . .	25 Octavia Terrace.
CLINK, CHARLES W. . . . .	17 Fox Street.
COLQUHOUN, DUNCAN . . . . .	2 Finnart Street.
COOK, WILLIAM, B.A., F.E.I.S. . . .	71 Newton Street.
CRAWFORD, JAMES . . . . .	30 Ardgowan Street (W.)
CRAWFORD, J. W. . . . .	93 Newton Street.
CRAWFORD, THOMAS . . . . .	61 Brisbane Street.
CUNNINGHAM, T. A. . . . .	87 Brisbane Street.
CURTIS, C. H. . . . .	27 Octavia Terrace.
CURTIS, W. H. . . . .	38 Newark Street.
DAVIE, ROBERT, Jun. . . . .	4 Fox Street.
DEMPSTER, DUNCAN F. . . . .	7 Octavia Terrace.
DENNISTON, J. S. . . . .	19 Patrick Street.
DICK, GEORGE . . . . .	28 Mearns Street.
DICKSON, W. A. . . . .	13 Brisbane Street.
DONALD, JAMES . . . . .	24 Forsyth Street.
DOUGLAS, ALEXANDER S. . . . .	58 Union Street.
DOUGLAS, T. N. . . . .	155 Eldon Street.
DUNCAN, JOHN . . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE . . . . .	95 Newton Street.
DUNLOP, M. F. . . . .	95 Newton Street.
ERSKINE, D. M. . . . .	Finnart Grove.
FINLAY, A. CAMPBELL . . . . .	62 Esplanade.
FISHER, WILLIAM A. . . . .	40 Forsyth Street.
FLEMING, JAMES . . . . .	39 Eldon Street.
FULLARTON, HUGH . . . . .	103 Finnart Street.
FYFE, JOHN P. . . . .	103 Eldon Street.
GEMMELL, ALEXANDER, M.A. . . . .	Greenock Academy.

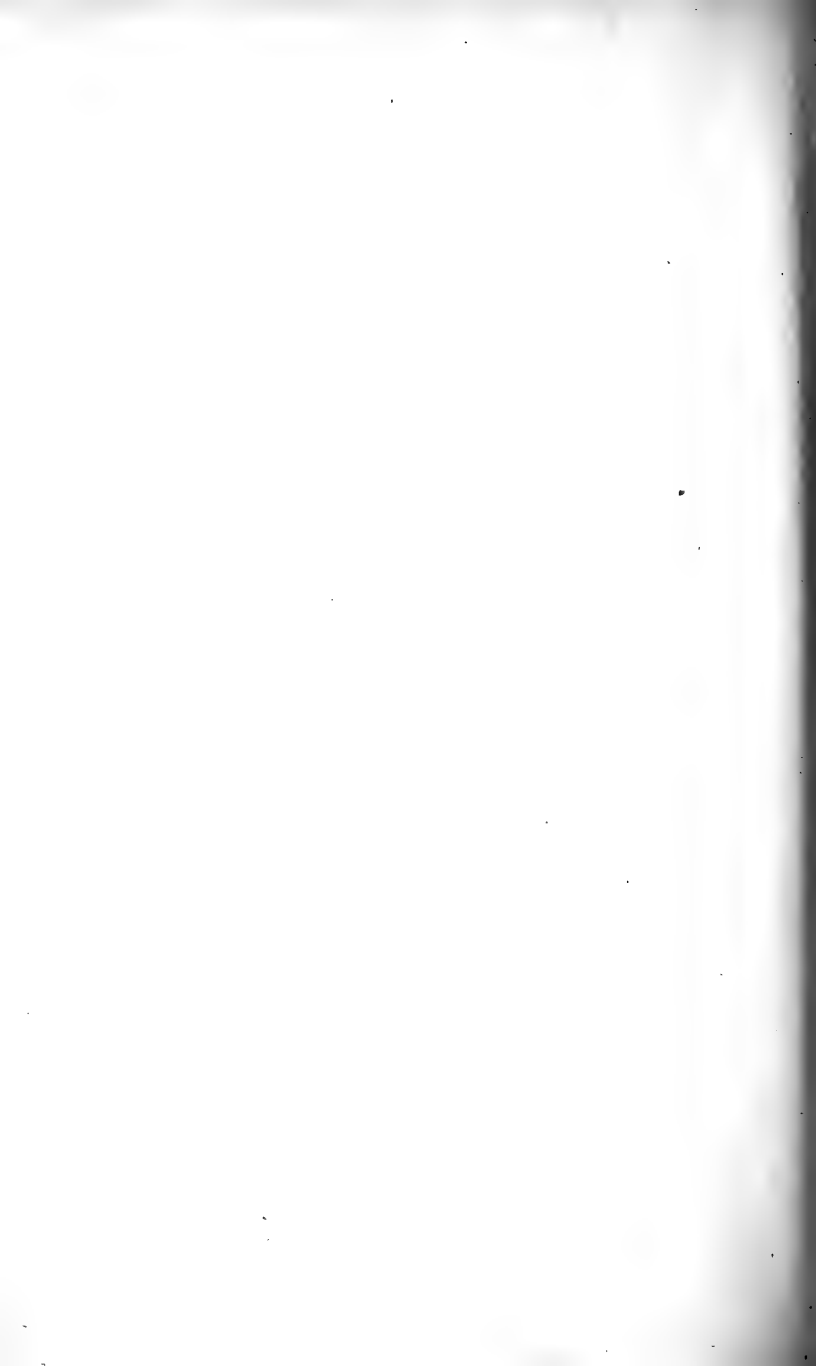
GILMOUR, R. S.	21 Bentinck Street.
GLEN, JAMES	19 Octavia Terrace.
GRAHAM, JAMES	Martin Terrace, 3 Finnart Street.
GRAHAM, JAMES D., M.B., C.M.,	Smithston.
GRIER, THOMAS	22 Brisbane Street.
HAIR, WILLIAM	33 Union Street.
HAMILTON, ROBERT	27 Bentinck Street.
HARDIE, WILLIAM, C.A.	60 Esplanade.
HART, J. CAMPBELL	Finnart House.
HENDERSON, W. F.	27 Finnart Street.
HILL, JAMES H.	25 Forsyth Street.
HILL, J. M.	52 Esplanade.
HILL, W. A.	13 Eldon Street.
HOOD, JOHN	Ivybank, Port-Glasgow.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	93 Eldon Street.
HOUSTON, R. H.	40 Newark Street.
HUTCHISON, JAMES H.	63 Finnart Street.
HYNDMAN, JOHN G.	6 Fox Street.
JOHNSTONE, Rev. THOS. F., M.A.	34 Eldon Street.
KENNEDY, JAMES	24 Union Street.
KERR, ANDREW	97 Brisbane Street.
KERR, JAMES	15 Robertson Street.
KERR, JOHN	53 Eldon Street.
KERR, J. S.	49 Margaret Street.
LANG, JOHN	Rockmount, Eldon Place.
LAUDER, R. P.	12 Lyle Street,
LAURIE, JAMES, M.B., C.M.	1 Shaw Place.
LAURIE, WILLIAM	5 Robertson Street.
LEITCH, ARTHUR O.	8 Newark Street.
LINDSAY, A. N.	63 Newton Street.
LINDSAY, WILLIAM	77 Union Street.
LOCHHEAD, ROBERT	63 Union Street.
LOVE, JOHN	Royal Bank.
LOVE, JAMES A.	Royal Bank.
LUSK, H. D.	25 Forsyth Street.
LYLE, ALEX. P.	25 Newark Street
LYLE, J. L.	109 Finnart Street.
MACARA, ROBERT	37 Finnart Street.
M'CALLUM, G. F.	53 Esplanade.

M'CLURE, JOHN . . .	66 Union Street.
M'CLURE, WILLIAM, M.A. . .	77 Newton Street.
MACCUNN, JAMES . . .	37 Ardgowan Street (W.)
MACDONALD, GEORGE . . .	101 Finnart Street.
MACDOUGALL, G. R. . .	22 Fox Street.
MACFARLAN, Miss . . .	75 Union Street.
M'GREGOR, J. D. . .	48 Cathcart Street.
M'GREGOR, JOHN . . .	99 Finnart Street
MACINTOSH, NEIL . . .	32 Ardgowan Street.
MACINTYRE, DONALD . . .	Mansionhouse, Ardgowan Square.
MACINTYRE, JOHN D. . .	22 Patrick Street.
MACKAY, EDWARD . . .	8 George Square.
MACKELLAR, PETER . . .	Parklea, 45 Finnart Street.
M'KINNON, JOHN . . .	2 Lyle Street.
MACLEAN, ALEX. S. . .	31 Bank Street.
MACLEAN, JAMES . . .	3 Octavia Terrace.
MACLEAN, RONALD . . .	27 Mearns Street.
M'LELLAN, ANDREW . . .	32 Nelson Street.
MACLEOD, ANGUS . . .	25 Regent Street.
MACMICHAEL, Rev. DAVID C., B.D.	19 Caddlehill Terrace.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A. Scot.,	70 Union Street.
MACMILLAN, Mrs. JOHN . . .	8 Margaret Street.
M'NEIL, CHARLES . . .	South Cliff, Wemyss Bay.*
MACPHAIL, JOHN . . .	5 Kelly Street.
MACPHERSON, D. . .	33 Ardgowan Street (W.)
M'PHERSON, DUGALD . . .	13 Ardgowan Street.
MACPHERSON, ROBERT . . .	56 Forsyth Street.
MARSHALL, CLAUD W., M.B., C.M.	8 Ardgowan Square.
MARSHALL, W. J., M.D., L.R.C.S.E.	8 Ardgowan Square.
MEYER, VICTOR C. . .	56 Finnart Street.
MILLER, THOMAS . . .	2 Fox Street.
MORTON, ERNEST . . .	2 Eldon Street.
MORTON, ROBERT . . .	1 Wood Street.
MUIR, JAMES D. . .	47 Brougham Street.
MUIR, ERNEST . . .	63 Eldon Street.
MUMME, CARL . . .	30 Newark Street.
MUNRO, A. CAMPBELL, M.B., D.Sc.	81a Brisbane Street.
MURDOCH, DAVID L. . .	42 Newark Street.
MURRAY, GEORGE . . .	5 Robertson Street.

NEILL, D. F. D.	1 Bedford Street.
NEILL, GEO. D.	26 Forsyth Street
NEILL, JOHN, M.A.	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A.,	1 Bedford Street.
NEILL, WALTER GRIEVE	1 Bedford Street.
NEILL, WILLIAM J.	13 Octavia Terrace.
NICOL, DUNCAN	2 Octavia Terrace.
NICOL, JOHN S.	40 Esplanade.
NICOLL, JAMES	32 Margaret Street.
NIVEN, G. W.	23 Newton Street.
NIXON, HENRY	30 Ardgowan Street (W.)
ORKNEY, ROBERT	63 Octavia Terrace.
PARK, W. U., M.A. (Cantab.),	52 Brougham Street.
PATERSON, JAMES	53 Brisbane Street.
PATERSON, S. R.	33 Margaret Street.
PATON, JAMES, M.D., C.M.	3 Ardgowan Square.
PATTERSON, T. L., F.I.C., F.C.S.	59 Finnart Street.
PETTIGREW, JOHN	6 Eldon Street.
POWELL, Lieut. EDWARD P., R.N.,	24 Finnart Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, DAVID	66 Finnart Street.
PRENTICE, THOMAS	41 Ardgowan Street (W.)
PURVIS, F. P., F.R.S.N.A.	Don Villa, Cardwell Bay
RAMSAY, CHARLES G.	49 Octavia Terrace.
RAMSAY, G. A.	37 Fox Street.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RENNIE, WILLIAM JOHN	55 Finnart Street.
RENNIE, ROBERT	36 Union Street.
RICHARDS, WILLIAM	Stewarton, Patrick Street.
RICHMOND, Mrs. Dr.	21 Patrick Street.
ROBERTSON, Rev. W. LEWIS, M.A.,	64 Finnart Street.
RODGER, ANDERSON	Glenpark, Port-Glasgow.
RODGER, JOHN	36 Forsyth Street.
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	21 Cove Road, Gourrock.
ROWLEY, THOMAS	Eldon Place.
RUSSELL, JOSEPH	The Knowe.
SCOTT, JOHN, C.B., F.R.S.E.	34 Brougham Street
SCOTT, Mrs. JOSEPH D.	74 Finnart Street.



SERVICE, WILLIAM . . .	56 Regent Street.
SHANKLAND, D. COWAN . . .	8 Madeira Street.
SHANKLAND, DUGALD . . .	8 Madeira Street.
SHEARER, ALEX. . . . .	2 Glen Street.
SHEARER, ARCHIBALD . . .	7 Bentinck Street.
SHEARER, R. B., M.A., LL.B. .	97 Finnart Street.
SINCLAIR, JAMES . . . . .	59 Brisbane Street.
SLATER, JAMES, B.A., F.E.I.S. .	14 Princes Street.
SMITH, HECKSTALL . . . . .	18 Eldon Street.
SPIERS, ALEXANDER J. . . . .	4 Glen Street.
STEELE, HENRY M. . . . .	40 Finnart Street.
STEWART, ANDREW . . . . .	14 Newark Street.
STEWART, JAMES K. . . . .	82 Union Street.
STEWART, SAMUEL . . . . .	Knocknair, Bogston.
TANNOCK, QUINTIN . . . . .	17 Ardgowan Street (W.)
TAYLOR, H. J. . . . .	55 Forsyth Street.
TAYLOR, STAVELEY . . . . .	4 Lyle Street.
THOM, WILLIAM A. . . . .	38 Brisbane Street.
THORBURN, JAS. G. . . . .	4 Newark Street.
THORNE, ROBERT . . . . .	36 Newark Street.
THORNE, THOMAS M. . . . .	51 Octavia Terrace.
TODD, WILLIAM J. . . . .	25 Nelson Street (W.)
WALKER, HUGH W. . . . .	Bellevue, Johnstone Street.
WALKER, JOHN . . . . .	59 Newton Street.
WALKER, LOUSON, C.A. . . . .	44 Newark Street.
WALLACE, DUNCAN M. . . . .	23 Ardgowan Street (W.)
WALLACE, JAMES, M.A., M.D. .	16 Union Street.
WATSON, W. S. . . . .	33 Union Street.
WATT, WILLIAM . . . . .	32 Forsyth Street.
WILLIAMSON, ALEXANDER . . .	67 Esplanade.
WILSON, THOMAS . . . . .	49 Esplanade.
WILSON, WM. A., M.D., C.M., .	54 Brisbane Street.
YOUNGER, ROBERT L. . . . .	22 Fox Street.







22 SEP 1938



THIRTY-EIGHTH ANNUAL REPORT

OF THE

GREENOCK

PHILOSOPHICAL SOCIETY

---

Session 1898-99.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., CHARLES STREET.

1899.



THIRTY-EIGHTH ANNUAL REPORT

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GREENOCK :

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# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1899-1900

President—Rev. THOMAS F. JOHNSTONE, M.A.

Vice-Presidents— $\left\{ \begin{array}{l} \text{WILLIAM COOK, B.A.} \\ \text{*GEORGE MURRAY.} \end{array} \right.$

Treasurer—WILLIAM HARDIE, C.A.

Secretary—ALEXANDER SHEARER.

### Committee of Management.

PRESIDENT.	M. HECKSTALL SMITH.
VICE-PRESIDENTS.	JAMES H. HILL.
TREASURER.	H. J. TAYLOR.
SECRETARY.	WILLIAM M'CLURE, M.A.
THOMAS CARMICHAEL.	JAMES WALLACE, M.A., M.D.
ALEXANDER ALLAN.	EDWARD MACKAY.
R. L. YOUNGER.	VICTOR C. MEYER.
WILLIAM AULD.	*A CAMPBELL FINLAY.
JOHN DUNCAN.	*MARCUS CALDER, M.D.
F. P. PURVIS.	*G. W. NIVEN.
J. W. ANDERSON.	*ROBERT HAMILTON.
ROBERT G. NEILL, M.A.	*GEORGE DUNLOP, B.L.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

A. CAMPBELL FINLAY.  
GEORGE MURRAY.  
MARCUS CALDER, M.D.  
G. W. NIVEN.  
ROBERT HAMILTON.  
GEORGE DUNLOP, B.L. *Secretary.*

*(Elected by Proprietors of Library.)*

H. W. WALKER.  
R. L. YOUNGER, *Treasurer.*  
F. D. MORRISON.  
ANDREW CARMICHAEL, *Chairman*  
JAMES WALLACE, M.A., M.D.  
H. D. LUSK.

*Curator of Museum—THOMAS RENNIE.*



# THIRTY-EIGHTH ANNUAL REPORT.

SESSION 1898-99.

*Read and approved at the Annual Meeting of the Society, held in the Watt Institution, on 3rd March, 1899—Rev. T. F. Johnstone, President, in the chair.*

## Statement of Accounts.

### INCOME.

Balance from last Session, - - - - -	-	-	-	£102 13 0
208 Members' Tickets, at 10/6, - - - - -	£109	4	0	
226 Ladies' and Youths' Tickets, at 3/6, - - - - -	39	11	0	
	£148	15	0	
Interest on Deposit Receipt, - - - - -	1	16	10	
Income for year, - - - - -				150 11 10
				<u>£253 4 10</u>

### EXPENDITURE.

Lecturers' Fees, - - - - -	-	-	-	£111 11 0
Expenses in connection with Lectures, - - - - -	-	-	-	3 9 0
Museum Committee—Lighting and Heating Hall, - - - - -	-	-	-	10 0 0
Printing, Advertising, and Stationery, - - - - -	-	-	-	32 10 0
Collector and Hallkeeper's Allowances and Outlays, - - - - -	-	-	-	7 17 0
Secretary's Outlay, - - - - -	-	-	-	4 5 1
Treasurer's Outlay, - - - - -	-	-	-	0 2 6
				<u>£169 14 7</u>
Expenditure for year, - - - - -	-	-	-	83 10 3
Balance on Deposit Receipt with National Bank, - - - - -	-	-	-	
Consisting of—Balance from last year, - - - - -	£102	13	0	
Less Deficiency this year, - - - - -	19	2	9	
	£83	10	3	
				<u>£253 4 10</u>

WM. HARDIE, *Hon. Treasurer.*

GREENOCK, 1st March, 1899.—Examined, Vouchers compared, and found correct for year 1898-1899.

WILLIAM ADAMSON, }  
J. WALLACE ANDERSON, } *Auditors.*

## SCIENCE LECTURE FUND.

Balance at close of last year, - - - - -	-	-	-	£43 19 7
Interest from National Bank and Provident Bank, - - - - -	-	-	-	0 19 3
				<u>£44 18 10</u>

WM. HARDIE, *Hon. Treasurer.*

GREENOCK, 1st March, 1899.

## Statement of Proceedings.

The number of members for the past session was 208, a decrease of 10 as compared with the preceding year. Of tickets to admit ladies and youths, 226 were sold. The attendance at the lectures was good throughout.

It will be seen from the Treasurer's Statement that it has been found necessary to draw upon the accumulated balance at the credit of the society to the extent of £19 2s. 9d., reducing it to £83 10s. 3d. This result is partly due to a somewhat larger expenditure than usual on lecturers' fees, and partly to the cost of printing the Watt Lectures for both 1898 and 1899 having fallen to this year's account.

The following were the lectures delivered :—

1898

- Oct. 28.—OPENING LECTURE—“*Samuel Johnson.*” By Sir HENRY CRAIK, K.C.B., LL.D., Secretary of the Scotch Education Department.
- Nov. 4.—“*Rise of the Potter's Art.*” By WILLIAM BURTON, Esq., F.C.S.
- „ 11.—“*The Formation of Public Opinion.*” By WILLIAM KNIGHT, Esq., LL.D., Professor of Moral Philosophy in the University of Saint Andrews.
- „ 18.—“*Old Musical Instruments.*” With Illustrations. By ARNOLD DOLMETSCH, Esq., London, and Assistants.
- „ 25.—“*Some Experiences of an Everyday Journalist.*” With Limelight Illustrations. By Viscount MOUNTMORRES.
- Dec. 2.—“*Old Buildings and the Story they tell.*” With Limelight Illustrations. By ARNOLD MITCHELL, Esq., F.R.I.B.A.
- „ 9.—“*Three Years in Afghanistan.*” With Limelight Illustrations. By Miss LILLIAS HAMILTON, M.D., late Medical Attendant to the Ameer of Afghanistan.
- „ 16.—“*Cardinal Richelieu.*” By A. J. GRANT, Esq., M.A., Professor of History in Yorkshire College, Leeds.

1886

- Jan. 20.—WATT ANNIVERSARY LECTURE—“*Steam Speeds at Sea.*”  
By Sir NATHANIEL BARNABY, K.C.B., Vice-President of  
Institution of Naval Architects.
- „ 27.—“*Scenes through the Battle Smoke: What I saw in the Tel-el-  
Kebir Campaign.*” With Limelight Illustrations. By the  
Rev. ARTHUR MALE, late Army Chaplain.
- Feb. 3.—“*The Chemistry of Life.*” With Experimental Illustrations.  
By JOHN G. M’KENDRICK, Esq., M.D., LL.D., F.R.S.,  
Professor of Physiology in the University of Glasgow.
- „ 10.—“*Haunts and Habits of British Birds.*” With Limelight  
Illustrations. By RICHARD KEARTON, Esq., F.Z.S.
- „ 17.—“*Methods and Problems of Horticulture.*” With Limelight  
Illustrations. By ISAAC BAYLEY BALFOUR, Esq., M.D.,  
D.Sc., F.R.S., Queen’s Botanist in Scotland, and Professor  
of Botany in the University of Edinburgh.
- „ 24.—“*Tennyson and Browning on Immortality.*” By HENRY  
JONES, Esq., M.A., LL.D., Professor of Moral Philosophy  
in the University of Glasgow.

The best thanks of the society are due to Sir Henry Craik, who opened the course with a lecture on “Samuel Johnson”; and to Sir Nathaniel Barnaby, who delivered the Watt Anniversary Lecture. Sir Nathaniel Barnaby’s lecture, with its very interesting diagrams, has been printed by the society and distributed among the members.

Professor Blyth, Glasgow, was unable to deliver the lecture he had promised for 3rd February; Professor M’Kendrick took that date instead of 25th November; and the Committee secured Viscount Mountmorres for the night thus left vacant. In all other respects the syllabus was carried out.

It was not thought advisable to arrange for a course of popular science lectures last winter. The balance at the credit of the Science Lecture Fund has been increased by bank interest to £44 18s. 10d.

At the joint meeting of the society and the proprietors of the Greenock Library, held on 26th December, the Annual Report of the Committee of the Museum and Hall was submitted and

adopted. Messrs. Robert Hamilton and George Dunlop were elected as representatives of the society in the Museum Committee for the next three years.

It is with regret the Committee have to record the death during the year of Dr. James Paton, one of their number.

The office-bearers of the society whose term now expires are—Mr. H. J. Taylor, vice-president, and Messrs. J. R. Black, M.D., William Adam, William Adamson, and Arthur R. Baird, members of committee. None of these are eligible for re-election to the same office at this time. The Committee have also received with regret intimation from Mr. William M'Clure that on account of other engagements he has resolved to resign the office of vice-president, to which he was elected last year.

The following publications have been received from other societies, viz.:—

Glasgow Philosophical Society : Proceedings, Vol. 29.

Canadian Institute, Toronto : Proceedings, Vol. 1, Part 6 (New Series).

Philadelphia Museums : (1) Pamphlet describing objects of the Commercial Museum ; (2) Monograph on Nicaragua.

For convenient reference, these and similar publications received in former years have been placed in the Museum in charge of the Curator.

## Summary of Report of Committee of Management of Museum and Lecture Hall.

For Year ending 31st December, 1898.

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The Committee is again indebted to interested friends for many of the contributions added to the Museum during the past year.

Special thanks are due to Captain Percival Lee Birch for his gifts to the Ornithological and other Departments. Only a few of the rarer birds are now required to make the collection of British Birds complete, and the collection of Eggs continues to progress. Close on fifty fossils belonging to the Cambrian, Silurian, and Devonian periods have been purchased, and attention may be directed to a number of Cave Bones, obtained from the Pengelly Collection through the kindness of Mr. E. T. Newton, of Germyn Street Geological Museum, London.

The South Kensington loans have again been renewed, and three cases show examples of Persian Pottery, Glass, &c. The Committee are further indebted to the South Kensington authorities for a fine model of H.M.S. Albion (built in 1842), also for twelve oil paintings and four cartoons. From the Egyptian Exploration Fund several beautifully preserved relics of the VI. and VII. Dynasties have been received.

Additions have also taken place in the other Departments of the Museum, gifts having been made, as formerly, by a number of resident townsmen.

Under the supervision of the M'Lean Trustees, a course of three Art Lectures was delivered in the Hall by Mr. R. F. Martin, of the South Kensington Museum, London. The lectures were illustrated by the glass, pottery, and art exhibits in the Museum.

The fire extinguishing appliances have been overhauled and put into good condition, and another extincteur has been added. Repairs which had been long contemplated to the stone work of the building were carried out during the year, and this portion of the building is now in a satisfactory condition.

The wall cases have been completed round to the Hall door, and a seventh upright case has been added to the gallery.

At the annual meeting, held in January last, Mr. Andrew Carmichael was elected Chairman for the current year; and Mr. H. D. Lusk, who has acted as Honorary Secretary for the last four years, having resigned office, Mr. George Dunlop was appointed his successor.

The number of visitors to the Museum during the year was about 21,000.

It is gratifying to note that the finances of the Museum continue to be in a very satisfactory state, the balance in the hands of the Treasurer at the close of the financial year amounting to £37 12s.

# LIST OF MEMBERS FOR 1898-99.

## 1.—Honorary Members.

(With Year of Election.)

SIR ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
JAMES B. STEPHENS, . . . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L., . . . . .	1865
SIR ANDREW NOBLE, K.C.B., F.R.S., . . . . .	1892

## II.—Ordinary Members.

ADAM, JOHN . . . . .	29a Finnart Street.
ADAM, R. G. . . . .	Hollybank, Madeira Street.
ADAM, WILLIAM . . . . .	12 Newark Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW JAMES . . . . .	1 Newark Street.
AITKEN, JAMES . . . . .	78 Eldon Street.
AITKEN, W. N. A. . . . .	National Bank.
ALLAN, ALEXANDER, C.A., . . . . .	38 Margaret Street.
ANDERSON, J. WALLACE . . . . .	67 Union Street.
ARCHIBALD, THOMAS P. . . . .	37 Fox Street.
AULD, WILLIAM . . . . .	79 Newton Street.
BAIRD, ARTHUR R. . . . .	44 Brisbane Street.
BATHGATE, ALEXANDER . . . . .	21 Newton Street.
BEGG, J. HENDERSON . . . . .	Thorndean House.
BENSON, ROBERT . . . . .	6 Bank Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, JOHN, . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M., . . . . .	37 Union Street.
BLAKE, MATTHEW . . . . .	62 Forsyth Street.
BODEN, JOHN, . . . . .	8 Brisbane Street.
BOYD, Miss SARAH G., . . . . .	39 Union Street.
BROWN, J. A. . . . .	33 Brisbane Street.

BROWN, M. M'C.	67 Eldon Street.
BUCHANAN, ROBERT	2 Fox Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, F.R.S.E.,	56 Esplanade.
CALDER, MARCUS, M.D.,	12 Union Street.
CAMERON, Sir CHARLES, Bart., M.D., LL.D., M.P.	Balclutha, Newark Street.
CAMPBELL, DUNCAN	49 Brougham Street.
CAMPBELL, Rev. JOHN	7 Ardgowan Square.
CARMICHAEL, ANDREW	45 Union Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	40 Ardgowan Street (W.).
CARMICHAEL, WM. H.	76 Finnart Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, CHARLES W.	17 Fox Street.
CLEGG, W. G.	26 Mearns Street.
COLQUHOUN, DUNCAN	38 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	3 Ardgowan Square.
CRAVEN, Miss	51 Forsyth Street.
CRAWFORD, JAMES	30 Ardgowan Street (W.).
CRAWFORD, J. W.	93 Newton Street.
CRAWFORD, THOMAS	61 Brisbane Street.
CUNNINGHAM, T. A.	87 Brisbane Street.
CURTIS, Mrs. C. H.	27 Octavia Terrace.
CURTIS, W. H.	38 Newark Street.
DEMPSTER, DUNCAN F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DICK, GEORGE	28 Mearns Street.
DONALD, JAMES	24 Forsyth Street.
DOUGLAS, ALEXANDER S.	58 Union Street.
DOUGLAS, T. N.	155 Eldon Street.



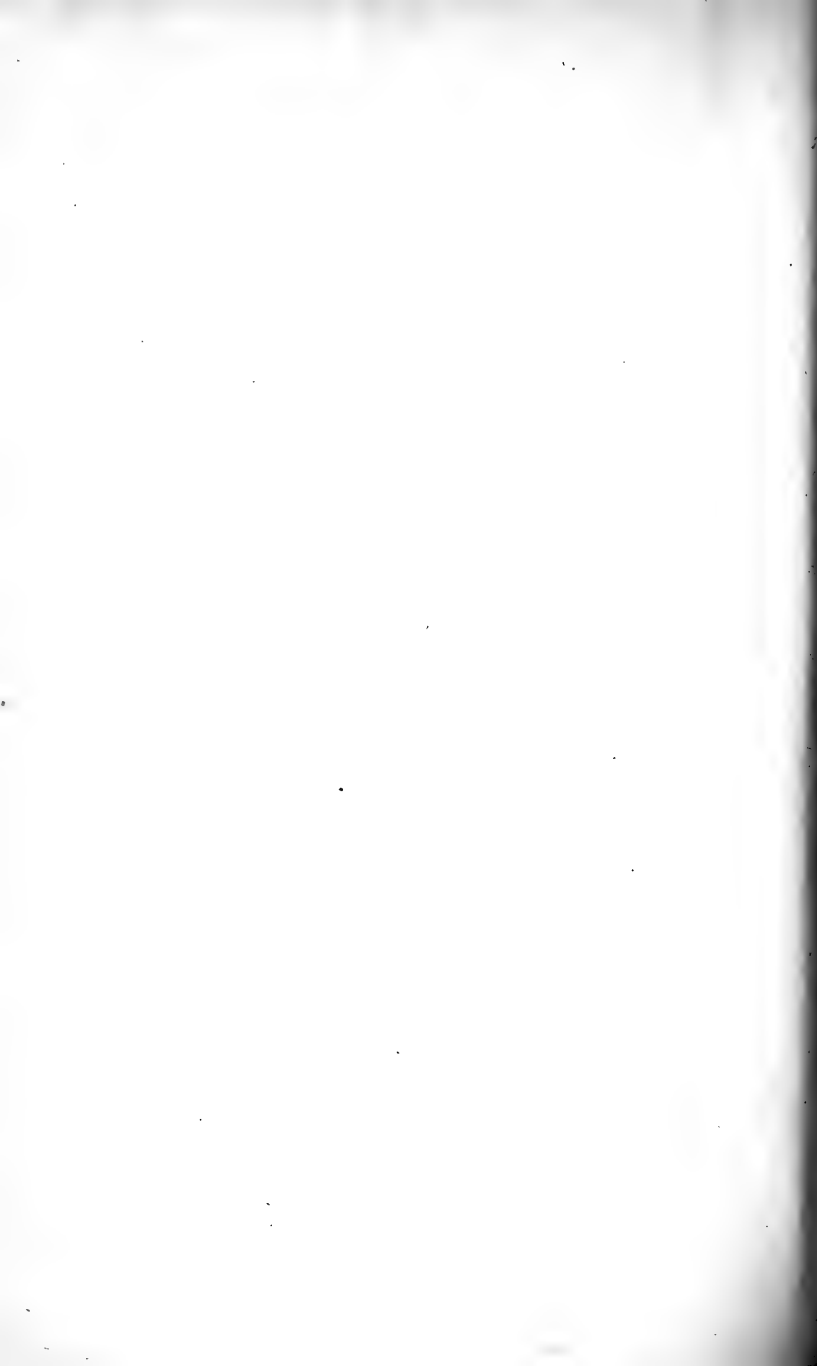
DUNCAN, JOHN . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, B.L. . . .	95 Newton Street.
DUNLOP, M. F. . . . .	95 Newton Street.
ERSKINE, D. M. . . . .	Finnart Grove.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FISHER, WILLIAM A. . . . .	40 Forsyth Street.
FLEMING, JAMES . . . . .	39 Eldon Street.
FYFE, JOHN P. . . . .	103 Eldon Street.
GEMMELL, ALEXANDER, M.A. . .	Greenock Academy.
GILMOUR, R. S. . . . .	21 Bentinck Street.
GLEN, JAMES . . . . .	19 Octavia Street.
GRAHAM, JAMES . . . . .	Martin Terrace, 3 Finnart Street.
GRAY, ROBERT . . . . .	1 Union Street.
GRIER, THOMAS . . . . .	22 Brisbane Street.
HAMILTON, ROBERT . . . . .	27 Bentinck Street.
HARDIE, WILLIAM, C.A. . . . .	60 Esplanade.
HART, J. CAMPBELL . . . . .	Finnart House.
HENDERSON, W. F. . . . .	27 Finnart Street.
HERON, CRAWFORD . . . . .	5 Caddlehill Terrace.
HILL, JAMES H. . . . .	25 Forsyth Street.
HILL, J. M. . . . .	52 Esplanade.
HOOD, JOHN . . . . .	Ivybank, Port-Glasgow.
HOUSTON, ANDREW . . . . .	11 Forsyth Street.
HOUSTON, G. W. . . . .	93 Eldon Street.
HOUSTON, R. H. . . . .	40 Newark Street.
HUTCHISON, JAMES H. . . . .	63 Finnart Street.
HYNDMAN, JOHN G. . . . .	6 Fox Street.
JACK, JOHN . . . . .	48 Brougham Street.
JOHNSTONE, REV. THOS. F., M.A.	34 Eldon Street.
KENNEDY, JAMES . . . . .	24 Union Street.
KERR, ANDREW . . . . .	97 Brisbane Street.
KERR, GEORGE . . . . .	15 Robertson Street.
KERR, JAMES . . . . .	15 Robertson Street.
KERR, JOHN . . . . .	53 Eldon Street.

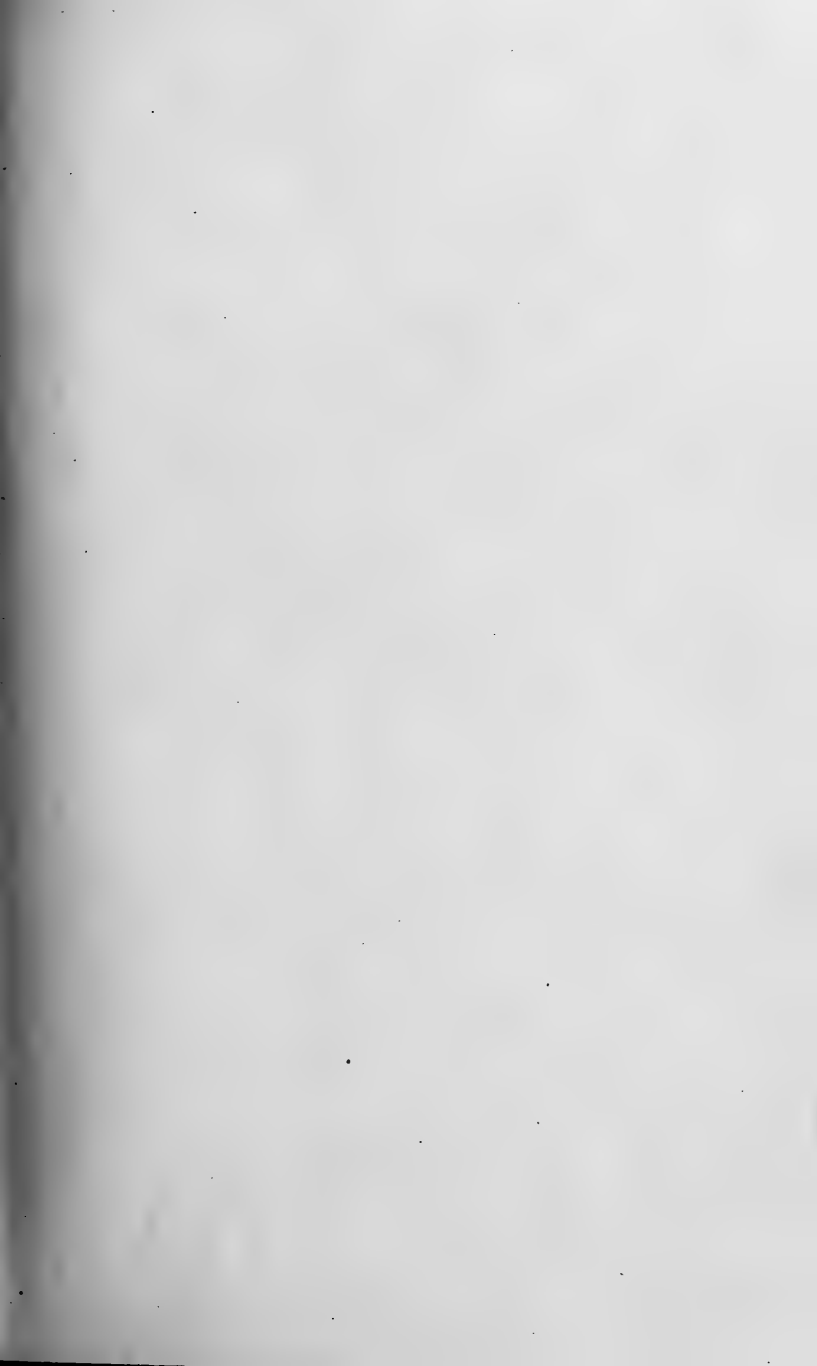
KERR, J. S.	49 Margaret Street.
LANG, JOHN	Rockmount, Eldon Place.
LAUDER, R. P.	12 Lyle Street.
LAURIE, JAMES, M.B., C.M.	1 Shaw Place.
LAURIE, WILLIAM	5 Robertson Street.
LEITCH, ARTHUR O.	8 Newark Street.
LINDSAY, WILLIAM	77 Union Street.
LOCHHEAD, ROBERT	63 Union Street.
LOVE, JOHN	Royal Bank.
LOVE, JAMES A.	Royal Bank.
LUSK, H. D.	25 Forsyth Street.
LYLE, ALEX. P.	25 Newark Street.
LYLE, J. L.	109 Finnart Street.
LYON, JAMES	40 Brisbane Street.
M'ARTHUR, H. G.	38 Brisbane Street.
M'CALLUM, ALEX.	Glenburn, Newark Street.
M'CALLUM, G. F.	53 Esplanade.
M'CLURE, JOHN	66 Union Street.
M'CLURE, WILLIAM, M.A.	77 Newton Street.
MACDONALD, GEORGE	101 Finnart Street.
MACDOUGALL, G. R.	22 Fox Street.
M'GREGOR, JOHN	99 Finnart Street.
MACINTOSH, NEIL	32 Ardgowan Street.
MACINTYRE, JOHN D.	22 Patrick Street.
MACKAY, EDWARD	8 George Square.
MACKELLAR, PETER	Parklea, 45 Finnart Street.
M'KINNON, JOHN	2 Lyle Street.
MACLEAN, ALEX. S.	31 Bank Street.
MACLEAN, JAMES	3 Octavia Terrace.
M'LELLAN, ANDREW	32 Nelson Street.
MACLEOD, ANGUS	25 Regent Street.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A. Scot.	70 Union Street.
M'NEIL, CHARLES	South Cliff, Wemyss Bay.

MACPHAIL, JOHN	6 Kelly Street.
M'PHERSON, DUGALD	13 Ardgowan Street.
MACPHERSON, ROBERT	56 Forsyth Street.
MEYER, VICTOR C.	56 Finnart Street.
MILLER, THOMAS	2 Fox Street.
MORTON, Miss JEMIMA	2 Eldon Street.
MORTON, ROBERT	1 Wood Street.
MUIR, JAMES D.	Redlands, Robertson Street.
MUIR, ERNEST	63 Eldon Street.
MUMME, CARL	30 Newark Street.
MUNRO, A. CAMPBELL, M.B., D.Sc.	81a Brisbane Street.
MURDOCH, DAVID L.	42 Newark Street.
MURRAY, GEORGE	5 Robertson Street.
NEILL, D. F. D.	1 Bedford Street.
NEILL, GEO. D.	26 Forsyth Street.
NEILL, JOHN. M.A.	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A.	1 Bedford Street.
NEILL, WALTER GRIEVE	1 Bedford Street.
NICOL, DUNCAN	2 Octavia Terrace.
NICOL, JOHN S.	34 Forsyth Street.
NICOLL, JAMES	32 Margaret Street.
NICOLSON, ALEX. N.	5 Dempster Street.
NIVEN, G. W.	23 Newton Street.
NIXON, HENRY	30 Ardgowan Street (W.)
ORKNEY, ROBERT	63 Octavia Terrace.
PARK, W. U., M.A. (Cantab.)	52 Brougham Street.
PATERSON, JAMES	53 Brisbane Street.
PATERSON, S. R.	33 Margaret Street.
PATERSON, T. L., F.I.C., F.C.S.	59 Finnart Street.
PETTIGREW, JOHN	6 Eldon Street.
PHILIP, THOMAS, M.D., C.M.	38 Union Street.
POWELL, Lieut. EDWARD P., R.N.	24 Finnart Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, DAVID	66 Finnart Street.

PRENTICE, THOMAS . . . .	41	Ardgowan Street (W.)
PURVIS, F. P., F.R.S.N.A. . . .		Don Villa, Cardwell Bay.
RANKIN, JOHN A. . . . .	23	Lyle Street.
RANKIN, JOHN F. . . . .	21	Octavia Terrace.
RANKIN, MATTHEW . . . . .	21	Octavia Terrace.
RENNIE, WILLIAM JOHN . . . .	55	Finnart Street.
RENNIE, ROBERT . . . . .	36	Union Street.
RICHARDS, WILLIAM . . . . .		Stewarton, Patrick Street.
RICHARDSON, ANDREW . . . . .	163	Eldon Street.
RODGER, ANDERSON . . . . .		Glenpark, Port-Glasgow.
RODGER, JOHN . . . . .	36	Forsyth Street.
RORISON, THOMAS D. . . . .	24	Roxburgh Street.
ROSS, HEW RAMSAY . . . . .	21	Cove Road, Gourrock.
ROWAN, R. HOUSTON . . . . .	50	Eldon Street.
ROWLEY, THOMAS . . . . .		Eldon Place.
RUSSELL, JOSEPH . . . . .		The Knowe.
SCOTT, JOHN, C.B., F.R.S.E. . . .		Halkshill, Largs.
SCOTT, Mrs. JOSEPH D. . . . .	74	Finnart Street.
SERVICE, WILLIAM . . . . .	56	Regent Street.
SHANKLAND, D. COWAN . . . . .	8	Madeira Street.
SHEARER, ALEX. . . . .	2	Glen Street.
SHEARER, ARCHIBALD . . . . .	7	Bentinck Street.
SLATER, JAMES, B.A., F.E.I.S. . .	14	Princes Street.
SMITH, M. HECKSTALL . . . . .	18	Eldon Street.
SPIERS, ALEXANDER J. . . . .	4	Glen Street.
STARK, Mrs. T. . . . .	63	Union Street.
STEELE, HENRY M. . . . .	40	Finnart Street.
STEEL, JAMES S. . . . .	38	South Street.
STEWART, ANDREW . . . . .	14	Newark Street.
STEWART, JAMES K. . . . .	82	Union Street.
STEWART, SAMUEL . . . . .		Knocknair, Bogston.
TAIT, JOHN . . . . .	25	Brisbane Street.
TAYLOR, DAVID J. . . . .	61	Union Street.
TAYLOR, H. J. . . . .	55	Forsyth Street.

TAYLOR, STAVELEY . . .	4 Lyle Street.
THOM, WILLIAM A. . . .	38 Brisbane Street.
THORBURN, JAS. G. . . .	4 Newark Street.
THORNE, ROBERT . . . .	36 Newark Street.
THORNE, THOMAS M. . . .	51 Octavia Terrace.
TODD, WILLIAM J. . . . .	25 Nelson Street (W.)
WALKER, HUGH W. . . . .	Bellevue, Johnstone Street.
WALKER, JOHN . . . . .	59 Newton Street.
WALKER, LOUSON, C.A. . . .	44 Newark Street.
WALLACE, DUNCAN M. . . . .	23 Ardgowan Street (W.)
WALLACE, JAMES, M.A., M.D. .	16 Union Street.
WATSON, MALCOLM, M.B., C.M.,	Smithston.
WATSON, W. S. . . . .	33 Union Street.
WATT, WILLIAM . . . . .	32 Forsyth Street.
WILLIAMSON, ALEXANDER . . .	67 Esplanade.
WILSON, THOMAS . . . . .	49 Esplanade.
WILSON, WM. A., M.D., C.M., .	54 Brisbane Street.
YOUNGER, ROBERT L. . . . .	22 Fox Street.





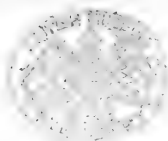
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22 SEP 1938





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22 SEP 1958



THIRTY-NINTH ANNUAL REPORT

OF THE

GREENOCK

PHILOSOPHICAL SOCIETY

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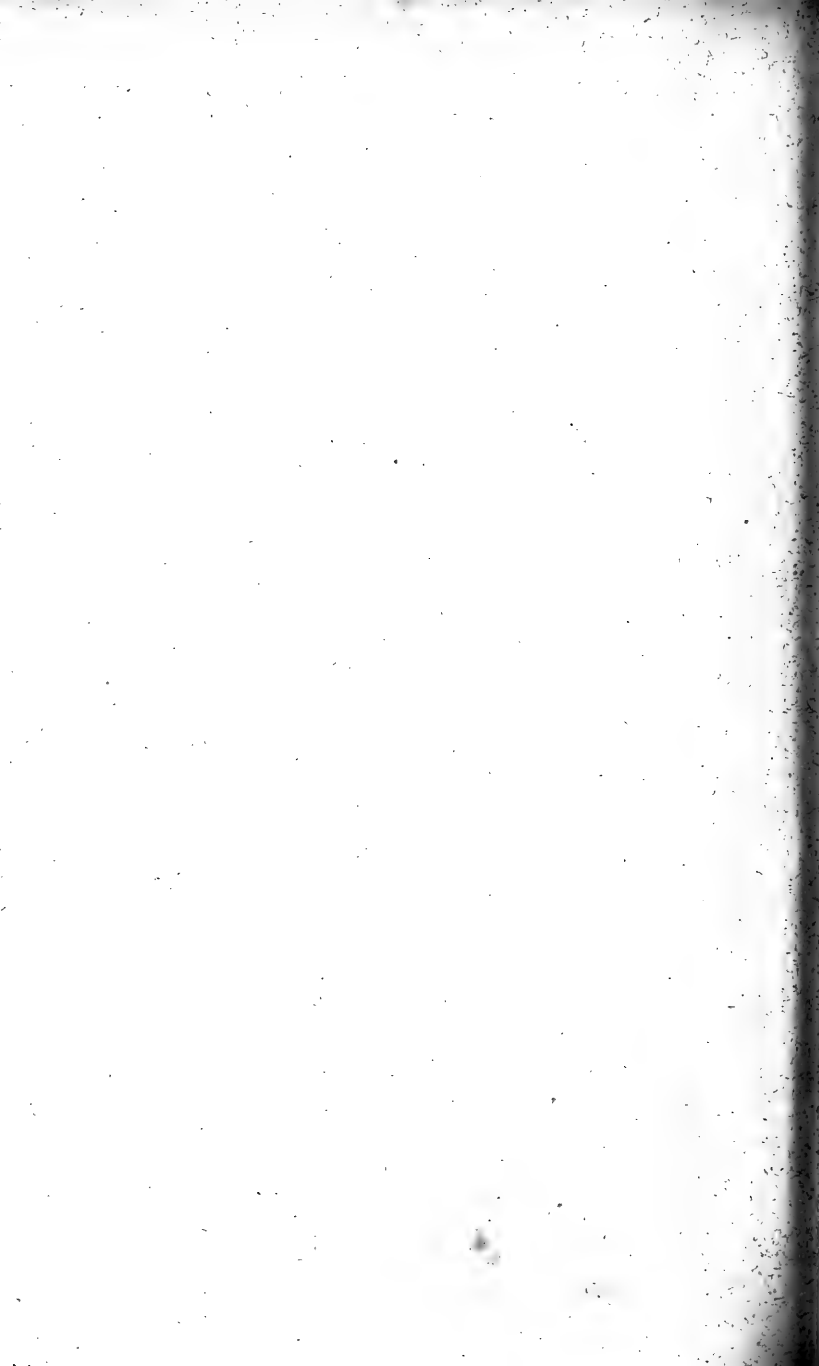
Session 1899-1900.

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GREENOCK :

PRINTED BY ORR, POLLOCK & CO., SUGARHOUSE LANE.

1900.



THIRTY-NINTH ANNUAL REPORT

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1900.

# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1900-1901.

— President—WILLIAM COOK, B.A.

— Vice-Presidents— { \*GEORGE MURRAY.  
JOHN DUNCAN.

Treasurer—WILLIAM ADAMSON.

Secretary—VICTOR C. MEYER.

### Committee of Management.

PRESIDENT.	— PETER MacKELLAR.
VICE-PRESIDENTS.	— JAMES NICOLL.
TREASURER.	— Rev. THOMAS F. JOHNSTONE, M.A.
SECRETARY.	— HUGH FULLARTON.
F. P. PURVIS.	× A. R. PRENTICE.
✓ J. W. ANDERSON.	× D. COWAN SHANKLAND.
× ROBERT G. NEILL, M.A.	× ALEXANDER SHEARER.
× M. HECKSTALL SMITH.	— *MARCUS CALDER, M.D.
× JAMES H. HILL.	— *G. W. NIVEN.
— H. J. TAYLOR.	— *ROBERT HAMILTON.
— WILLIAM M'CLURE, M.A.	*GEORGE DUNLOP, B.L.
— JAMES WALLACE, M.A., M.D.	— *A. CAMPBELL FINLAY.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

<i>(Elected by Philosophical Society.)</i>	<i>(Elected by Proprietors of Library.)</i>
MARCUS CALDER, M.D.	— F. D. MORRISON.
G. W. NIVEN	ANDREW CARMICHAEL.
ROBERT HAMILTON, <i>Chairman.</i>	— JAMES WALLACE, M.A., M.D.,
GEORGE DUNLOP, B.L., <i>Secretary.</i>	H. D. LUSK.
A. CAMPBELL FINLAY.	R. L. YOUNGER, <i>Treasurer.</i>
GEORGE MURRAY.	— J. A. BROWN.

*Curator of Museum—THOMAS RENNIE.*

# Thirty-Ninth Annual Report.

SESSION 1899-1900.

*Read and approved at the Annual Meeting of the Society, held in the Watt Institution, on 2nd March, 1900—Rev. T. F. Johnstone, President, in the chair.*

## Statement of Accounts.

### INCOME.

Balance from last Session, - - - - -	-	-	-	£83	10	3
214 Members' Tickets, at 10/6, - - - - -	£112	7	0			
240 Ladies' and Youths' Tickets, at 3/6, - - - - -	42	0	0			
	£154	7	0			
Interest on Deposit Receipt, - - - - -	1	19	4			
Income for year, - - - - -				156	6	4
				£239	16	7

### EXPENDITURE.

Lecturer's Fees, - - - - -	-	-	-	£94	14	0
Museum Committee—Lighting and Heating Hall, - - - - -	-	-	-	10	0	0
Printing, Advertising, and Stationery, - - - - -	-	-	-	16	3	4
Collector and Hallkeeper's Allowances and Outlays, - - - - -	-	-	-	7	14	0
Secretary's Outlay, - - - - -	-	-	-	2	12	9
Treasurer's Outlay, - - - - -	-	-	-	0	2	6
Expenses in connection with Lectures, - - - - -	-	-	-	5	6	8
Expenditure for year, - - - - -	-	-	-	£136	13	3
Balance on Deposit Receipt with National Bank, - - - - -	-	-	-	103	3	4
Consisting of—Balance from last year, - - - - -	£83	10	3			
Surplus this year, - - - - -	19	13	1			
	£103	3	4			
				£239	16	7

WM. HARDIE, *Hon. Treasurer.*

GREENOCK, 2nd March, 1900.—We have examined the Hon. Treasurer's Accounts, and compared them with the Vouchers, and have found them to be correct, the balance in Bank on Deposit Receipt amounting to £103 3s. 4d.

J. WALLACE ANDERSON, } *Auditors.*  
ROB. HAMILTON, }

## SCIENCE LECTURE FUND.

Balance at close of last year, - - - - -	-	-	-	£44	18	10
Interest from National Bank and Provident Bank, - - - - -	-	-	-	1	2	11
Balance at Credit of the Fund, - - - - -				£46	1	9

WM. HARDIE, *Hon. Treasurer.*

## Statement of Proceedings.

The Committee have pleasure in submitting the Thirty-ninth Annual Report. The number of Members has increased from 208 to 214, and there were 240 tickets issued to Members to admit ladies and youths to the lectures, as compared with 226 in the previous year. The attendance throughout the session has been very good.

The finances of the Society are also in a satisfactory condition, the balance at credit having risen from £83 10s. 3d. to £103 3s. 4d.

The following were the lectures delivered :—

1899.

- Nov. 3.—“*Thackeray.*” A Lecture and Recital. By the Rev. CHARLES CLARK, Bristol.
- „ 10.—“*Insect Architects and Engineers.*” With Lime-Light Illustrations. By FRED ENOCK, Esq., F.L.S., F.E.S., London.
- „ 17.—“*Climbing the Andes.*” With Lime-Light Illustrations. By Sir WILLIAM MARTIN CONWAY, M.A., Vice-President of the Alpine Club.
- „ 24.—“*English Music of the Sixteenth and Seventeenth Centuries.*” With Instrumental and Vocal Illustrations. By ARNOLD DOLMETSCH, Esq., London, assisted by Miss Hélène Dolmetsch and Mrs. Elodie Dolmetsch.
- Dec. 1.—“*Some Notes of a Trip to Rome and Naples.*” With Lime-Light Illustrations. By JOSEPH RUSSELL, Esq., Port-Glasgow.
- „ 8.—“*My Experiences among Pigmies and Cannibals of Central Africa.*” With Lime-Light Illustrations. By ALBERT B. LLOYD, Esq., of the Church Missionary Society.
- „ 15.—“*The Propagation of Earthquake Vibrations through the Earth.*” With Lime-Light Illustrations. By Professor CARGILL G. KNOTT, D.Sc., Edinburgh.

1900.

- Jan. 19.—WATT ANNIVERSARY LECTURE. "*The Various Methods of Space Telegraphy.*" By OLIVER J. LODGE, Esq., D.Sc., LL.D., F.R.S., Professor of Physics, University College, Liverpool.
- " 26.—"*Stained Glass Art: Its History and Modern Development.*" With Lime-Light Illustrations. By STEPHEN ADAM, Esq., F.S.A., Scot., Glasgow.
- Feb. 2.—"*Colour Photography.*" With Lantern Illustrations of the Various Processes. By RICHARD KERR, Esq., F.G.S., London.
- " 9.—"*Whales and Whale Fishing.*" With Lime-Light Illustrations. By FRANK T. BULLEN, Esq., F.R.G.S., author of "*The Cruise of the 'Cachalot,' &c.*"
- " 16.—"*British Naval and Military Medals.*" With Lime-Light Illustrations. By JOHN RODGER, Esq., Greenock.
- " 23.—"*Curran, Orator and Wit.*" By the Rev. A. B. BOYD CARPENTER, M.A., London.

Rear-Admiral Lord Charles Beresford, who had kindly undertaken to give an opening address, was unfortunately prevented from doing so by indisposition. With this exception, the programme issued at the beginning of the Session was in all respects carried out.

The best thanks of the Society are due to Professor Oliver J. Lodge for the Watt Anniversary Lecture. Professor Lodge has given permission to print this lecture, and it will shortly be issued to the Members as one of the Society's papers.

Thanks are also due to Mr. Joseph Russell and Mr. John Rodger, both members of the Society, for the lectures delivered by them.

Beyond keeping up the regular Course of Lectures, no work was undertaken during the past year. The balance at credit of the Science Lecture Fund now stands at £46 1s. 9d.

At the joint meeting of the Society and the Proprietors of the Greenock Library, held on 25th December, the Annual Report of the Committee of the M'Lean Museum and Hall was submitted and adopted. A copy of that Report is annexed. It will be seen that the application to Government, in which the Committee of the Society joined, for a grant to Greenock of a set of the Reports of

the "Challenger" Expedition has met with a gratifying response. Messrs. A. C. Finlay and George Murray were re-elected as representatives of the Society in the Museum Committee for the next three years.

Dr. William J. Marshall, an original Member of the Society, and at one time its President, having taken up his residence permanently in Edinburgh, the Committee, in recognition of his many services to the Society, nominate him for election as an Honorary Member.

The Committee regret to have to record the death during the year of Mr. Edward Mackay, one of their number; and also the death of Mr. John Love, who was a Member of the Society from its commencement, and acted as Secretary from 1862 to 1869.

The following publications have been received from other Societies and placed in the Museum:—

Canadian Institute, Toronto: Proceedings, Vol. 2; Part 2 (New Series).

Philadelphia Museums: (1) "Contributions to the Herpetology of New Granada and Argentina"; (2) "The World's Commerce and the United States share of it."

Paisley Philosophical Society: "The Coats' Observatory, Paisley, Its History and Equipment."

The Office-bearers whose term now expires are—Rev. Thomas F. Johnstone, M.A., President; Mr. William Cook, B.A., Vice-President; Mr. Alexander Shearer, Secretary; and Messrs Thomas Carmichael, Alexander Allan, Robert L. Younger, William Auld, and John Duncan, Members of Committee. With the exception of Mr. Duncan, who was elected last year to fill a vacancy, and of the Secretary, none of these are eligible for re-election. The Committee have received with regret intimation from Mr. Shearer of his intention to retire at this time from office; and also from Mr. William Hardie of his wish to be relieved of the office of Treasurer, which he has held for the past four years.

The Committee desire to record their sense of the Society's indebtedness to Mr. Johnstone, who, during his term as President, has furthered in every way the interests of the Society.



## M'Lean Museum and Lecture Hall.—Annual Report by Committee of Management.

Read and Adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society held on 25th December, 1899

The Committee of Management of the M'Lean Museum and Lecture Hall have pleasure in submitting their Twenty-second Annual Report.

At the Statutory Meeting, held in January last, Mr. Andrew Carmichael was elected Chairman of Committee, Mr. R. L. Younger was reappointed Treasurer, and Mr. George Dunlop was appointed Secretary in room of Mr. H. D. Lusk who had resigned. The Committee desired to place on record their appreciation of the valuable services rendered by Mr. Lusk during the four years in which he acted as Secretary.

From the very complete Report submitted by Mr. Rennie, the curator, it will be seen that large additions have during the year been made to all the Collections, both by donation and purchase, and the Committee desire to tender their thanks to all who have assisted by contributing or lending specimens to the Museum.

Attention may be called to the following points referred to in the Curator's Report :—

The collection of British Birds being now representative of almost every species on the British Museum Catalogue, the Committee are endeavouring to make this Department more interesting by adding specimens of Birds in down (that is young birds already hatched); 53 such specimens have already been purchased and will shortly be placed among the collection.

In the Geological Department the Committee are anxious to make the collection as complete as possible, and hope, by the regular addition of specimens from time to time, soon to have a fairly representative collection. During the year, 290 specimens have been purchased, particulars of which are given in the Curator's Report.

Thanks are again due to the Committee of Egypt Exploration Fund for a valuable donation of pre-historic articles found at Diospolis, Upper Egypt.

Several interesting additions have been made by donation to the collection illustrating Ethnography.

Attention may be called to the portraits which have recently been purchased by the Committee, viz., a portrait of Mr. John Robertson, designer and constructor of the engines of the "Comet," and miniature portrait of James Watt.

One of the most interesting additions made to the Museum during the year is an exquisitely-finished full model of the "Comet," constructed by the Curator from particulars obtained from a reliable source. The model recently attracted the attention of an official from the Science and Art Department, South Kensington, who expressed a desire to have such a model in the South Kensington Museum. The Committee, accordingly, offered to present a duplicate of the model to that Museum and, their offer having been accepted by the Lords of the Committee of Council on Education, the Curator is at present engaged in constructing a second model.

The loans from South Kensington have again been renewed. These consist of four cases containing exhibits of a most interesting nature, also twelve oil paintings and four cartoons. Three valuable paintings have also been received on loan from the National Gallery collection.

In last year's Report it was mentioned that a joint memorial by the Museum, Library, and Philosophical and Natural History Societies had been made for a grant of volumes of the Report of the Voyage of H.M.S. "Challenger," and the Committee have now much pleasure in stating that the application has proved successful

and that a large selection of these valuable works has been presented to the Museum. The volumes may be seen and referred to on application to the Curator.

The Museum was closed to the public for the usual period during the summer to permit of the premises being cleaned and the specimens examined and put in order, and it is satisfactory to note that the Curator reports that "all the collections are in a fine state of preservation." The Committee desire to take this opportunity of recording their most entire satisfaction with the manner in which the Curator performs his duties, not only in keeping the Museum premises in the best condition but in arranging and classifying the various specimens in a most thorough and painstaking manner.

The Members who retire by rotation at this time are : from the Library representatives, Messrs. H. W. Walker and R. L. Younger ; and from the Philosophical Society's representatives, Messrs. A. C. Finlay and George Murray. These are all eligible for re-election.

FINANCE.—The Treasurer's Statement to close of the financial year shows the receipts for the year to be £412 10s. 2d. and the expenditure £389 14s. 6d., leaving a surplus of £22 15s. 8d.; this, added to the credit balance at the beginning of the year, £28 17s. 7d., shows a credit balance now of £57 13s. 3d. The standing charges are about the average. The Statement of Accounts with vouchers has as usual been audited by Mr. M. F. Dunlop and found correct.

## LIST OF MEMBERS FOR 1899-1900.



### 1.—Honorary Members

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
JAMES B. STEPHENS,	1864
EDWARD CAIRD, M.A., LL.D., D.C.L.,	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	1892
WILLIAM J. MARSHALL, M.D., L.R.C.S.E.,	1900

### II.—Ordinary Members.

ADAM, JOHN	29a Finnart Street.
ADAM, R. G.	Hollybank, Madeira Street.
ADAM, WILLIAM	12 Newark Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AGNEW, JAMES	1 Newark Street.
AITKEN, JAMES	78 Eldon Street.
AITKEN, W. N. A.	National Bank.
ALLAN, ALEXANDER, C.A.	39 Margaret Street
ALLAN, Rev. C., M.A.	40 Eldon Street.
ANDERSON, J. WALLACE	67 Union Street.
ARCHIBALD, THOMAS P.	37 Fox Street.
AULD, WILLIAM	79 Newton Street.
BAIRD, ARTHUR R.	44 Brisbane Street.
BATHGATE, ALEXANDER	21 Newton Street.
BEALE, Miss	57 Union Street.
BEGG, J. HENDERSON	Thorndean House.
BENSON, ROBERT	6 Bank Street.
BLACK, A. J.	16 Ardgowan Square.

BLACK, JOHN . . . . .	8 Eldon Street.
BLACK, JOHN R., M.D., C.M. . . . .	37 Union Street.
BLAKE, MATTHEW . . . . .	62 Forsyth Street.
BODEN, JOHN . . . . .	18 Bentinck Street.
BOYD, Miss SARAH G. . . . .	39 Union Street.
BRADLEY, GEORGE . . . . .	30 Esplanade.
BROWN, J. A. . . . .	6a George Square.
BROWN, M. M'C. . . . .	67 Eldon Street.
BROWN, W. A. . . . .	16 Eldon Street.
BUCHANAN, ROBERT . . . . .	2 Fox Street.
CAIRD, COLIN S. . . . .	13 Newark Street.
CAIRD, PATRICK T. . . . .	Belleaire, 15 Newark Street.
CAIRD, ROBERT, F.R.S.E. . . . .	56 Esplanade.
CALDER, MARCUS, M.D. . . . .	12 Union Street.
CAMERON, Sir CHARLES, Bart., M.D., LL.D., M.P. . . . .	Balclutha, Newark Street.
CARMICHAEL, ANDREW . . . . .	45 Union Street.
CARMICHAEL, J. D. M. . . . .	93 Finnart Street.
CARMICHAEL, R. D. . . . .	93 Finnart Street.
CARMICHAEL, THOMAS . . . . .	40 Ardgowan Street (W.)
CARMICHAEL, WM. H. . . . .	76 Finnart Street.
CLAPPERTON, ROBERT A. . . . .	10 Bedford Street.
CLERK, DUNCAN . . . . .	25 Octavia Terrace.
CLINK, CHARLES W. . . . .	17 Fox Street.
COLQUHOUN, DUNCAN . . . . .	38 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S. . . . .	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M. . . . .	3 Ardgowan Square.
CRAVEN, Miss . . . . .	51 Forsyth Street.
CRAWFORD, JAMES . . . . .	30 Ardgowan Street (W.)
CRAWFORD, J. W. . . . .	95 Newton Street.
CRAWFORD, THOMAS . . . . .	61 Brisbane Street.
CUNNINGHAM, T. A. . . . .	87 Brisbane Street.
CURTIS, Mrs. C. H. . . . .	27 Octavia Terrace.
DEMPSTER, DUNCAN F. . . . .	7 Octavia Terrace.

DENNISTON, J. S.	19 Patrick Street.
DICK, GEORGE	28 Mearns Street.
DONALD, JAMES	24 Forsyth Street.
DOUGLAS, ALEXANDER S.	58 Union Street.
DOUGLAS, T. N.	155 Eldon Street.
DUNCAN, JOHN	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, B.L.	95 Newton Street.
DUNLOP, M. F.	95 Newton Street.
ERSKINE, D. M.	Finnart Grove.
FINLAY, A. CAMPBELL	62 Esplanade.
FISHER, Mrs. R. F.	40 Forsyth Street.
FLEMING, JAMES	39 Eldon Street.
FULLARTON, HUGH	103 Finnart Street.
FYFE, JOHN P.	103 Eldon Street.
GEMMELL, ALEXANDER, M.A.	Greenock Academy.
GLEN, JAMES	19 Octavia Street.
GRAY, ROBERT	1 Union Street.
GRIER, THOMAS	22 Brisbane Street.
HAMILTON, ROBERT	27 Bentinck Street.
HARDIE, WILLIAM, C.A.	60 Esplanade.
HART, J. CAMPBELL	Finnart House.
HENDERSON, Mrs.	13 Kelly Street.
HENDERSON, W. F.	27 Finnart Street.
HERON, CRAWFORD	5 Caddlehill Terrace.
HILL, JAMES H.	25 Forsyth Street.
HILL, J. M.	52 Esplanade.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	93 Eldon Street.
HOUSTON, JOHN	30 Ardgowan Street (West).
HOUSTON, R. H.	40 Newark Street.
HUDLESTON, Commander W.	H.M.S. "Benbow."
HUMPAGE, Captain R. P., R.N.	57 Forsyth Street.
HUTCHISON, JAMES H.	63 Finnart Street.
HYNDMAN, JOHN G.	6 Fox Street.

JACK, JOHN . . . . .	48 Brougham Street.
JOHNSTON, JAMES . . . . .	65 Brougham Street.
JOHNSTONE, Rev. THOS. F., M.A. . . . .	34 Eldon Street.
KENNEDY, JAMES . . . . .	24 Union Street.
KERR, ANDREW . . . . .	97 Brisbane Street.
KERR, DANIEL . . . . .	1 Margaret Street.
KERR, JAMES . . . . .	15 Robertson Street.
KERR, JOHN . . . . .	53 Eldon Street.
KERR, J. S. . . . .	49 Margaret Street.
KINCAID, JOHN G. . . . .	30 Forsyth Street.
LANE, W. J. . . . .	1 Union Street.
LANG, JOHN . . . . .	Rockmount, Eldon Place.
LAURIE, JAMES, M.B., C.M. . . . .	1 Shaw Place.
LAURIE, WILLIAM . . . . .	5 Robertson Street.
LEITCH, ARTHUR O. . . . .	8 Newark Street.
LETHAM, JAMES . . . . .	12 Forsyth Street.
LOCHHEAD, ROBERT . . . . .	63 Union Street.
LOVE, JOHN W. . . . .	Royal Bank.
LOVE, JAMES A. . . . .	Royal Bank.
LYLE, ALEX. P. . . . .	25 Newark Street.
LYLE, J. L. . . . .	109 Finnart Street.
LYLE, Jun., ROBERT . . . . .	69 Newton Street.
MACALPINE, JOHN . . . . .	Rosbank, Port-Glasgow.
M'ARTHUR, H. G. . . . .	38 Brisbane Street.
M'CALLUM, ALEX. . . . .	Glenburn, Newark Street.
M'CALLUM, G. F. . . . .	53 Esplanade.
M'CLURE, JOHN . . . . .	75 Brisbane Street.
M'CLURE, WILLIAM, M.A. . . . .	77 Newton Street.
MACCUNN, JAMES . . . . .	37 Ardgowan Street (W.)
MACCUTCHEON, HUGH . . . . .	77 Holmscroft Street.
MACDONALD, GEORGE . . . . .	101 Finnart Street.
MACDOUGALL, G. R. . . . .	22 Fox Street.
M'GREGOR, JOHN . . . . .	99 Finnart Street.
MACINTOSH, NEIL . . . . .	32 Ardgowan Street.

MACINTYRE, JOHN D.	26 Forsyth Street.
MACKAY, EDWARD	8 George Square.
M'KELLAR, JAMES	109 Eldon Street.
MACKELLAR, PETER	Parklea, 45 Finnart Street.
M'KINNON, JOHN	2 Lyle Street.
M'KIRDY, ROBERT	78 Union Street.
MACLEAN, ALEX. S.	31 Bank Street.
MACLEAN, JAMES	3 Octavia Terrace.
M'LELLAN, ANDREW	32 Nelson Street.
MACLEOD, ANGUS	25 Regent Street.
MACMILLAN, Rev. HUGH, D.D., LL.D., F.R.S.E., F.S.A., Scot.	70 Union Street.
MACPHAIL, JOHN	6 Kelly Street.
M'PHERSON, DUGALD	13 Ardgowan Street.
MACPHERSON, ROBERT	56 Forsyth Street.
MEYER, VICTOR C.	56 Finnart Street.
MILLER, Jun., THOMAS	2 Fox Street.
MORRISON, GEORGE	72 Eldon Street.
MORTON, Miss JEMIMA	2 Eldon Street.
MORTON, ROBERT	1 Wood Street.
MUIR, JAMES D.	Redlands, Robertson Street.
MUIR, ERNEST	63 Eldon Street.
MUMME, CARL	30 Newark Street.
MUNRO, A. CAMPBELL, M.B., D.Sc.	81a Brisbane Street.
MURDOCH, DAVID I.	42 Newark Street.
MURRAY, GEORGE	5 Robertson Street.
NEILL, D. F. D.	1 Bedford Street.
NEILL, GEO. D.	39 Newark Street.
NEILL, JOHN, M.A.	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A.	1 Bedford Street.
NEILL, WALTER GRIEVE	1 Bedford Street.
NEILSON, MATTHEW	42 Brisbane Street.
NICOL, DUNCAN	2 Octavia Terrace.
NICOL, JOHN S.	34 Forsyth Street.



NICOLL, JAMES	32 Margaret Street.
NIVEN, G. W.	23 Newton Street.
NIXON, HENRY	30 Ardgowan Street (W.)
ORKNEY, ROBERT	63 Octavia Terrace.
PATERSON, JAMES	53 Brisbane Street.
PATERSON, S. R.	33 Margaret Street.
PATERSON, T.L., F.I.C., F.C.S.	59 Finnart Street.
PETTIGREW, JOHN	40 Esplanade.
POWELL, Lieut. EDWARD P., R.N.	24 Finnart Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, DAVID	66 Finnart Street.
PURVIS, F. P., F.R.S.N.A.	Don Villa, Cardwell Bay.
RANKIN, JOHN A.	25 Lyle Street.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RENNIE, WILLIAM JOHN	55 Finnart Street.
RENNIE, ROBERT	36 Union Street.
RICHARDSON, ANDREW	163 Eldon Street.
RICHMOND, Mrs.	21 Patrick Street.
RODGER, JOHN	36 Forsyth Street.
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	2 Robertson Street.
ROWAN, R. HOUSTON	50 Eldon Street.
ROWLEY, THOMAS	Eldon Place.
RUSSELL, JOSEPH	The Knowe.
SCOTT, JOHN, C.B., F.R.S.E	Halkhill, Largs.
SCOTT, Mrs. JOSEPH D.	74 Finnart Street.
SERVICE, WILLIAM	56 Regent Street.
SHANKLAND, D. COWAN	8 Madeira Street.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ARCHIBALD	7 Bentinck Street.
SLATER, JAMES, B.A., F.E.I.S.	14 Princes Street.
SMITH, Mrs. J. B.	65 Union Street.
SMITH, M. HECKSTALL	18 Eldon Street.

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SPIERS, A. J. . . . .	4 Glen Street.
STARK, MRS. T. . . . .	63 Union Street.
STEEL, JAMES S. . . . .	38 South Street.
STEELE, HENRY M. . . . .	74 Finnart Street.
STEWART, ANDREW . . . . .	14 Newark Street.
STEWART, JAMES K. . . . .	82 Union Street.
STEWART, SAMUEL . . . . .	Knocknair, Bogston.
TAIT, JOHN . . . . .	25 Brisbane Street.
TAYLOR, H. J. , . . . .	55 Forsyth Street.
TAYLOR, STAVELEY . . . . .	4 Lyle Street.
THOM, WILLIAM A. . . . .	38 Brisbane Street.
THORBURN, JAS. G. . . . .	4 Newark Street.
THORNE, ROBERT . . . . .	36 Newark Street.
THORNE, THOMAS M. . . . .	51 Octavia Terrace.
TODD, WILLIAM J. . . . .	25 Nelson Street (W.)
TURNBULL, ALEXR. J. . . . .	83 Brisbane Street.
TURNER, JAMES W. . . . .	9 Fox Street.
WALKER, HUGH W. . . . .	Bellevue, Johnstone Street.
WALKER, JOHN . . . . .	59 Newton Street.
WALKER, LOUSON, C.A. . . . .	44 Newark Street.
WALLACE, DUNCAN M. . . . .	65 Union Street.
WALLACE, JAMES, M.A., M.D. . . . .	16 Union Street.
WATSON, W. S. . . . .	33 Union Street.
WATT, WILLIAM . . . . .	32 Forsyth Street.
WILLIAMSON, ALEXANDER . . . . .	67 Esplanade.
WILSON, THOMAS . . . . .	49 Esplanade.
WILSON, WM. A., M.D., C.M. . . . .	54 Brisbane Street.
YOUNGER, ROBERT L. . . . .	22 Fox Street.

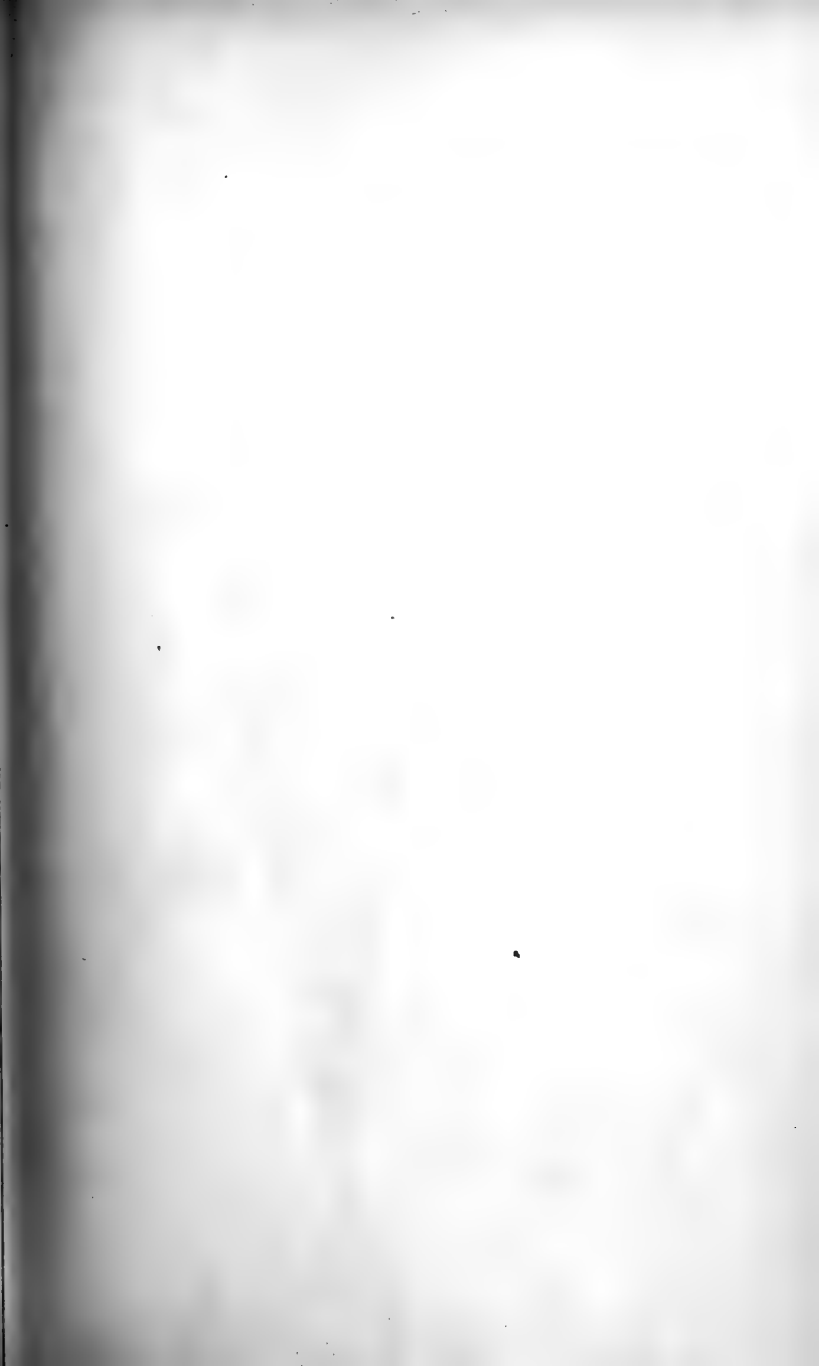


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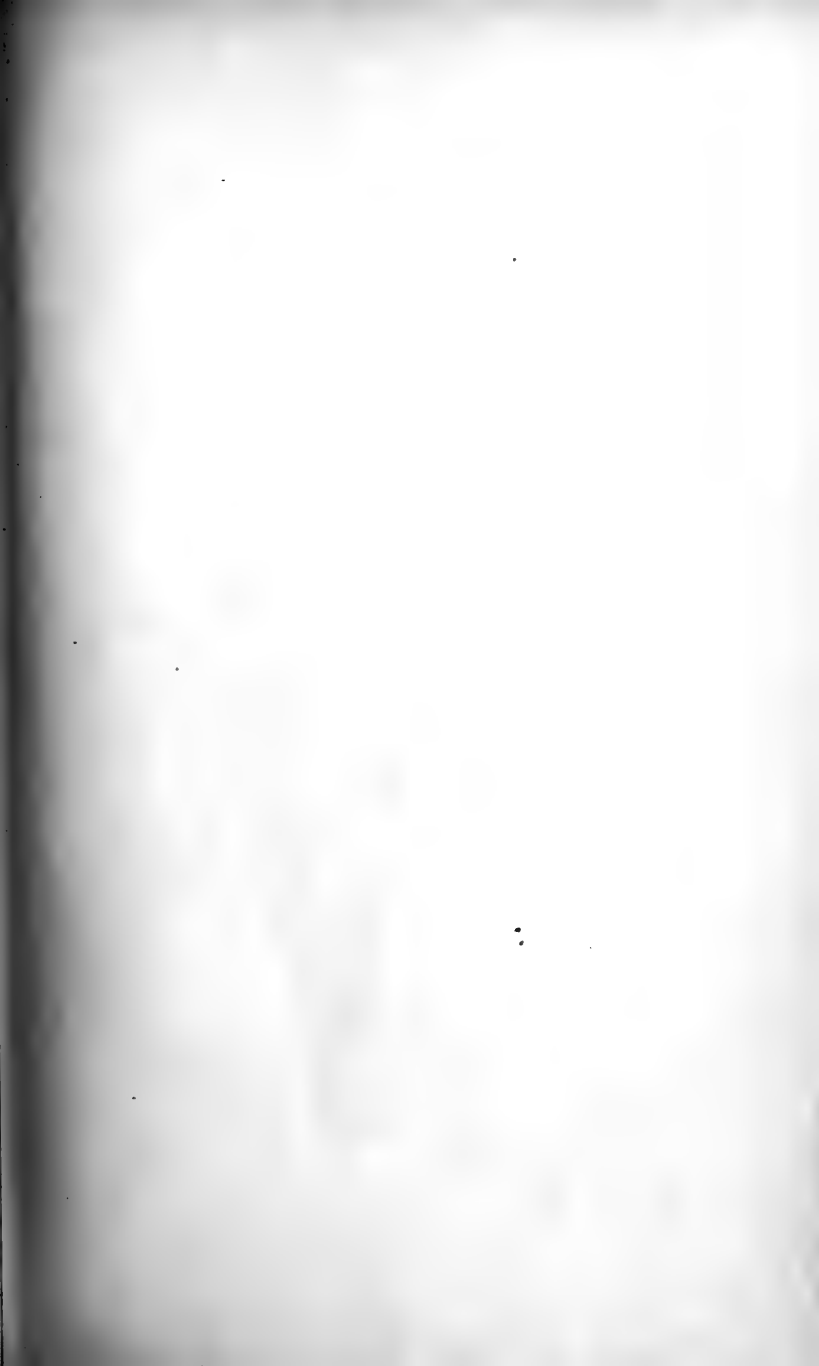




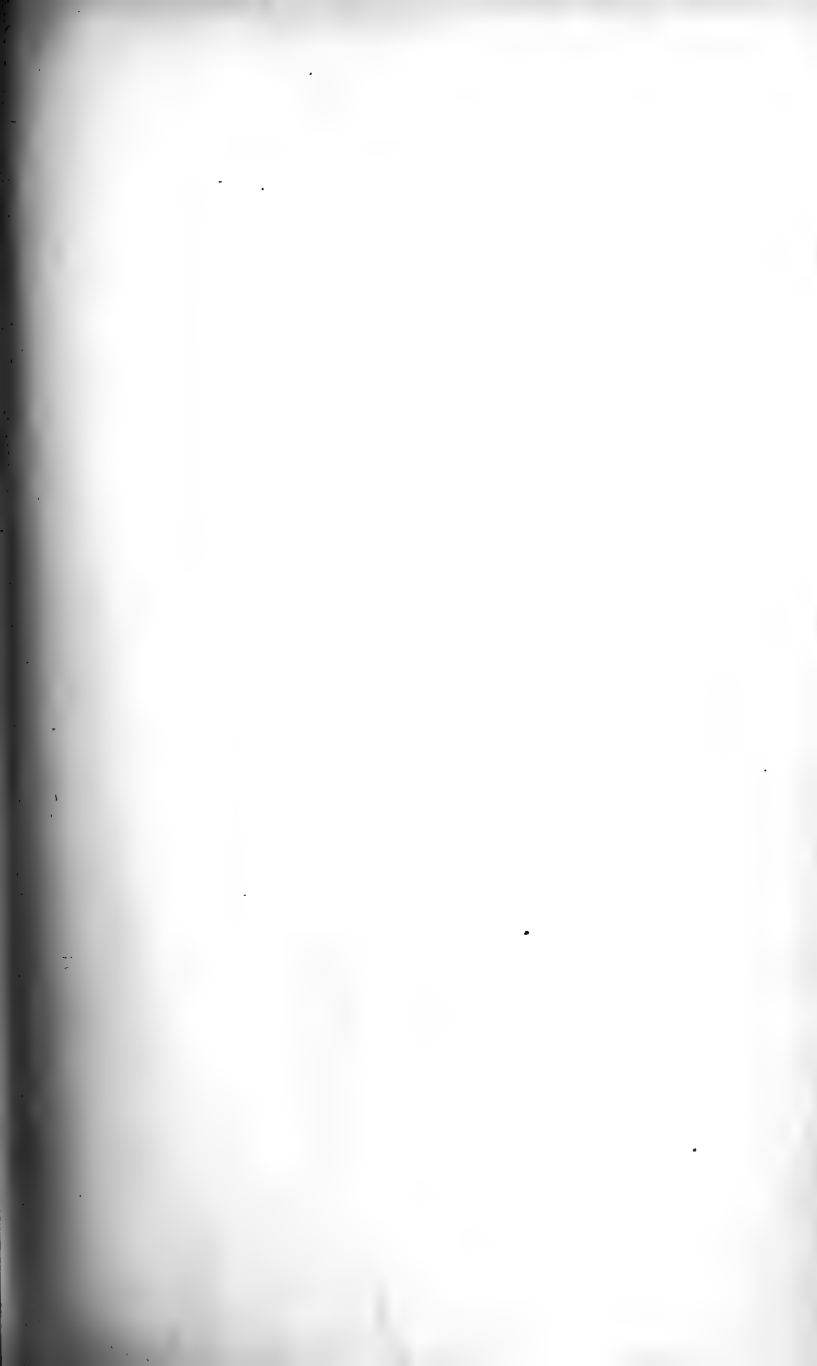














22 SEP 1938



FORTY-FIRST

# Annual Report

OF THE

## GREENOCK

## PHILOSOPHICAL SOCIETY.

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Session 1901-1902.

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GREENOCK:

"TELEGRAPH" PRINTING OFFICES, SUGARHOUSE LANE.

1902.



FORTY-FIRST

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1902.





# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1902-1903.

President—JOHN DUNCAN.

Vice-Presidents— $\left\{ \begin{array}{l} \text{A. R. PRENTICE.} \\ \text{PETER MacKELLAR.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON.

Secretary—VICTOR C. MEYER.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

Rev. THOMAS F. JOHNSTONE, M.A.

HUGH FULLARTON.

A. J. SPEIRS.

D. COWAN SHANKLAND.

ALEXANDER SHEARER.

WILLIAM AULD.

JOHN G. KINCAID.

T. A. CUNNINGHAM.

ROBERT MORTON.

Sheriff A. T. GLEGG.

Rev. ANDREW RITCHIE, M.A.

WILLIAM COOK, B.A.

WILLIAM HASTIE.

ALEXANDER ALLAN, C.A.

JAMES A. LOVE.

\*A. CAMPBELL FINLAY.

\*GEORGE MURRAY.

\*MARCUS CALDER, M.D.

\*G. W. NIVEN.

\*THOMAS THOMSON.

\*GEORGE DUNLOP, B.L.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

A. CAMPBELL FINLAY.

GEORGE MURRAY, *Chairman.*

MARCUS CALDER, M.D.

G. W. NIVEN

THOMAS THOMSON, *Treasurer.*

GEORGE DUNLOP, B.L., *Secretary.*

*(Elected by Proprietors of Library.)*

JAMES D. NEILL.

R. L. YOUNGER.

J. A. BROWN.

ANDREW CARMICHAEL.

M. M'C. BROWN.

JAMES WALLACE, M.A., M.D.,

*Curator of Museum—*THOMAS RENNIE.



# Forty-First Annual Report.

**SESSION 1901-1902.**

*Read and approved at the Annual Meeting of the Society, held in the Hall of the McLean Museum, on 7th March, 1902—Mr. William Cook, B.A., President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£97 16 2
205 Members' Tickets, at 10/6, . . . . .	£107 12 6
253 Ladies' and Youths' Tickets, at 3/6, . . . . .	44 5 6
	<hr/>
	£151 18 0
Interest on Deposit Receipt, . . . . .	1 17 9
Income for Year, . . . . .	<hr/>
	153 15 9
	<hr/>
	£251 11 11

### EXPENSES.

Fees to Lecturers, . . . . .	£95 16 10
Expenses in connection with Lectures, . . . . .	8 10 5
Museum Committee—Lighting and Heating Hall, . . . . .	10 0 0
Printing, Advertising, and Stationery, . . . . .	26 2 0
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	7 10 9
New Electric Lantern, with fittings complete, . . . . .	20 16 7
Outlays per Secretary and Treasurer, . . . . .	3 1 4
	<hr/>
	£171 17 11
Balance on Deposit Receipt with National Bank, . . . . .	79 14 0
	<hr/>
	£251 11 11

### SCIENCE LECTURE FUND.

Balance from previous Session, . . . . .	£47 5 6
Interest from National Bank and Provident Bank, . . . . .	1 2 2
	<hr/>
Balance now at Credit, . . . . .	£48 7 8

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 5th March, 1902.—Examined, certified correct, and securities exhibited.

P. MACKELLAR,  
THOMAS THOMSON, } *Auditors.*

## Statement of Proceedings.

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The Committee have pleasure in submitting the Forty-first Annual Report. The number of Members is now 205, and the number of tickets issued to Members to admit ladies and youths is 253. These figures shew a slight increase on last year's figures. The attendance at the lectures throughout the session has been very good.

The finances of the Society continue in a satisfactory condition, the credit balance being £79 14s.

The programme as arranged at the beginning of the course was carried out in its entirety:—

1901

Oct. 25—OPENING LECTURE—“*Some Thoughts on the Life and Teaching of Ralph Waldo Emerson.*” By WILLIAM JACKS, LL.D., of Crosslet.

Nov. 1—“*With the Allies to Peking.*” With Lantern Illustrations. By FREDERICK COLEMAN, War Correspondent to the “New York Herald.”

„ 8—“*The Republic of Chili.*” With Lantern Illustrations. By D. E. HUME, F.R.G.S., Hull.

„ 15—“*Exploring in the Antarctic.*” With Lantern Illustrations. By C. E. BORCHGREVINK, Kgt. St. Olaf, F.R.G.S.

„ 22—“*The Physical Basis of Vision.*” With Lantern Illustrations and Experiments. By A. FREELAND FERGUS, M.D., F.R.S.E., Glasgow.

1901.

Nov. 29—"Caricature in and out of Parliament." With Lantern Illustrations. By E. T. REED, Parliamentary Draughtsman of "Punch."

Dec. 6—"The Message of Tom Hood." With Illustrative Readings. By GEORGE MIDDLETON, M.A., LL.B., Glasgow.

„ 13—"The Women Song Writers of Scotland." With Song Illustrations. By Madame NORRIS-ADAMS.

1902.

Jan. 17—WATT ANNIVERSARY LECTURE. "*James Watt, Inventor.*" By H. S. HELE SHAW, LL.D., F.R.S., Professor of Engineering in University College, Liverpool.

„ 24—"Camping in Palestine." With Lantern Illustrations. By the Rev. W. LEWIS ROBERTSON, M.A., Greenock.

„ 31—"Voyages in Cloudland." With Lantern Illustrations. By the Rev. J. M. BACON, M.A., F.R.A.S.

Feb. 7—DRAMATIC RECITAL. By ERNEST DENNY, London.

„ 14—"Insects and their Relation to the Propagation of Disease." With Lantern Illustrations. By JOHN GLAISTER, M.D., Professor of Forensic Medicine in the University of Glasgow.

„ 21—"A Grain of Wheat." With Lantern Illustrations. By FREDERICK O. BOWER, D.Sc., F.R.S., Professor of Botany in the University of Glasgow.

„ 28—"Some Literary Associations of the English Lake District." With Lantern Illustrations. By the Rev. Canon RAWNSLEY, M.A., Crosthwaite.

The thanks of the Society are due to Dr. William Jacks and Professor Hele Shaw of Liverpool for the opening and Watt lectures respectively, the latter of which is now being printed, and will be issued to the Members as one of the Society's Papers.

Thanks are also due to Dr. Freeland Fergus and the Rev. W. Lewis Robertson for their lectures, given gratuitously.

A course of lectures on "French Literature," in the French language, was organised under the auspices of the Society, and is at present proceeding satisfactorily, being attended in considerable

numbers. The lecturer, Mons. Charles Martin, of the University of Glasgow, is dealing in an able and instructive manner with an extensive range of subjects bearing on the literature of France, and has maintained to now the interest of an enthusiastic body of students. Otherwise no special lecture course was undertaken during the session.

The balance at credit of the Science Lecture Fund is now £48 7s. 8d.

Your Committee regret to record the loss which the Society has sustained in the past session through death. Provost Black, an old Member of the Society; his son, Dr. J. R. Black, a past President; and Dr. W. J. Marshall, a past President and a valued Honorary Member, have all died since last Annual Meeting. All of these took an active interest in the affairs of the Society, and your Committee would put on record their appreciation of the valuable services rendered by them in the past.

Your Committee also regret the removal from town of Dr. Hugh Macmillan, a Member whose valuable literary services and influence were for long unsparingly given in the interests of the Society. Your Committee recommend that Mr. F. P. Purvis, an Ex-President of the Society, and now Professor of Naval Architecture in the University of Tokio, Japan, be elected an Honorary Member of the Society.

At a joint meeting of the Members of the Society and the Proprietors of the Greenock Library, held on 30th December last, the Annual Report of the Committee of the M'Lean Museum and Hall was submitted and adopted.

Mr. George Dunlop, B.L., was re-elected one of the Society's representatives, and the other vacancy was filled by the appointment of Mr. Thomas Thomson in room of Mr. Robert Hamilton, retired.

The following publications have been received during the past year:—

The Transactions of the Canadian Institute.

The Proceedings of the Glasgow Philosophical Society, and

The Management of Engineering Workshops, from the Institution of Junior Engineers.

The Society's Papers have, as usual, been sent to numerous learned and scientific societies. During the session your Committee adopted a new system of lantern illustration by the introduction of the electric light, for which purpose a special lantern, suitable to the new agent, was purchased. Through the skilful manipulation of Mr. R. W. Jamieson, the lanternist, the improved results were most marked, and met with the universal approval and appreciation of the lecturers.

The Office-bearers who retire at this time are Messrs. William Cook, President; John Duncan, Vice-President; and Messrs. H. J. Taylor, William M'Clure, Dr. James Wallace, Peter MacKellar, and James Nicoll, Members of Committee.

## M'Lean Museum and Lecture Hall.

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### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT,

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society, held on 30th December, 1901.*

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The Committee of Management of the M'Lean Museum and Lecture Hall have pleasure in submitting the Twenty-fourth Annual Report. In terms of the Constitution, the Chairman for the year fell to be elected from the Members of Committee representing the Library Proprietors, and at the statutory meeting held in the beginning of the year Dr. James Wallace was unanimously appointed Chairman in succession to Mr. Robert Hamilton. There was no other change in the Office-bearers. The Committee regret that their Hon. Treasurer, Mr. R. L. Younger, has asked to be relieved of duty at this time. During the period of eight years for which he held office Mr. Younger took a deep interest in the work of the Museum, and the Committee desire to record their appreciation of the services rendered by him.

As formerly, numerous additions have, throughout the year, been made to the collections, a complete record of which will be found in the Curator's Report, and the Committee again desire to record their thanks to all who have contributed objects to the Museum either as donations or on loan. It need hardly be added that the Committee are always glad to receive and place in the Museum any object of interest.



Special thanks are again due to Mr. George R. Macdougall, New York, for a further interesting and valuable donation of butterflies and moths, illustrating the various properties with which these insects are endowed by Nature for their protection. These have been placed beside the specimens presented by Mr. Macdougall last year, and the whole forms a very complete and interesting collection. Thanks are also due to the Rev. Dr. Macmillan, who, on the occasion of his leaving town to take up residence in Edinburgh, presented to the Museum his extensive collection of botanical specimens, also several volumes of the publication "Nature."

Further additions have been made by purchase to the geological section, which is gradually becoming more complete.

The Committee of the Egypt Exploration Fund have again presented a number of interesting objects to the Museum, and thanks are due to them for these as well as for various books and reports also received. It is worthy of note that a representative of the Society from London, who recently visited the Museum, expressed himself as highly pleased with the excellent way in which the objects in this department are arranged and displayed.

The curator and his assistant are at present engaged in fitting up an addition to the library case. This when finished will afford much needed accommodation, and will complete the wall cases on the ground floor.

The Philosophical Society, with the approval of the Committee, recently introduced a supply of electricity to the Lecture Hall for use in the optical lantern at their lectures, and the Museum Committee have at present under consideration the matter of lighting the premises by electricity and also of improving the heating of the Hall.

The Museum was closed for the usual period during the summer, when the annual cleaning was carried out. The Committee again desire to record their satisfaction with the manner in which the duties of curator are discharged by Mr. Rennie.

The Members who retire by rotation at this time are Dr. Wallace and Mr Neill from the Library representatives, and Mr.

Hamilton and Mr Dunlop from the Philosophical Society's representatives. They are all eligible for re-election.

FINANCE.—The Treasurer's account shows the revenue for past year to have been £395 7s. 7d., and the expenditure £370 19s. 3d., leaving a balance at credit of the Museum of £24 8s. 4d. This, with the amount brought forward from last year, makes a total balance on hand of £94 12s. 11d. The slight increase is mainly accounted for by the reduced expenditure on specimens, but this is likely to be much larger during the coming year by additions and necessary renewals. The rents received from the letting of Hall show a diminution as compared with last year.

## LIST OF MEMBERS FOR 1901-1902.

## 1.—Honorary Members.

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	. . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	. . . .	1863
JAMES B. STEPHENS,	. . . .	1864
EDWARD CAIRD, M.A., LL.D., D.C.L.,	. . . .	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	. . . .	1890
T. P. PURVIS, WH. SC.,	. . . .	1902

## 11.—Ordinary Members.

ADAM, JOHN	. . . .	29a Finnart Street.
ADAM, R. G.	. . . .	Hollybank, Madeira Street.
ADAM, WILLIAM	. . . .	12 Newark Street.
ADAMSON, WILLIAM	. . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES	. . . .	1 Newark Street.
AITKEN, JAMES	. . . .	78 Eldon Street.
AITKEN, W. N. A.	. . . .	National Bank.
ALLAN, ALEXANDER, C.A.	. . . .	39 Margaret Street.
ALLAN, Rev. C., M.A.	. . . .	93 Newton Street.
ALLAN, WILLIAM, M.D.	. . . .	21 Patrick Street.
ALSTON, M. H.	. . . .	44 Margaret Street.
ALSTON, R. A.	. . . .	44 Margaret Street.
ANDERSON, J. WALLACE	. . . .	67 Union Street.
ARBUCKLE, W. S.	. . . .	11 Fox Street.
ARCHIBALD, THOMAS P.	. . . .	37 Fox Street.
AULD, WILLIAM	. . . .	79 Newton Street.
BAIRD, ARTHUR R.	. . . .	44 Brisbane Street.

BAIRD, DAVID . . . .	15 Finnart Street.
BATHGATE, ALEXANDER . . . .	21 Newton Street.
BEALE, Miss . . . .	9 Eldon Street.
BENSON, ROBERT . . . .	6 Bank Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLAKE, MATTHEW . . . .	62 Forsyth Street.
BODEN, JOHN . . . .	68 South Street.
BOYD, Miss SARAH G. . . .	39 Union Street.
BOYD, W. D. . . . .	90 Finnart Street.
BRADLEY, GEORGE . . . .	30 Esplanade.
BROWN, J. A. . . . .	6a George Square.
BROWN, M. M'C. . . . .	67 Eldon Street.
BROWN, W. A. . . . .	16 Eldon Street.
BUCHANAN, ROBERT . . . .	2 Fox Street.
CAIRD, COLIN S. . . . .	13 Newark Street.
CAIRD, PATRICK T. . . . .	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CALDER, MARCUS, M.D. . . .	12 Union Street.
CARMICHAEL, ANDREW . . . .	41 Union Street.
CARMICHAEL, J. D. M. . . .	93 Finnart Street.
CARMICHAEL, R. D. . . . .	93 Finnart Street.
CARMICHAEL, THOMAS . . . .	40 Ardgowan Street (W.)
CARMICHAEL, WM. H. . . . .	76 Finnart Street.
CLAPPERTON, ROBERT A. . . .	83 Brisbane Street.
CLERK, DUNCAN . . . . .	25 Octavia Terrace.
CLINK, CHARLES W. . . . .	17 Fox Street.
COLQUHOUN, DUNCAN . . . .	38 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	3 Ardgowan Square.
CRAWFORD, JAMES . . . . .	30 Ardgowan Street (W.)
CRAWFORD, J. W. . . . .	95 Newton Street.
CRAWFORD, THOMAS . . . .	61 Brisbane Street.
CUNNINGHAM, T. A. . . . .	87 Brisbane Street.

CURTIS, W. H.	38 Newark Street.
DEMPSTER, DUNCAN F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DONALD, JAMES	24 Forsyth Street.
DOUGLAS, ALEXANDER S.	58 Union Street.
DOUGLAS, T. N.	51 Union Street.
DUNCAN, JOHN	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, B.L.	95 Newton Street.
DUNLOP, M. F.	95 Newton Street.
ERSKINE, D. M.	Finnart Grove.
FINLAY, A. CAMPBELL	62 Esplanade.
FISHER, Mrs. P. B.	49 Union Street.
FLEMING, JAMES	39 Eldon Street.
FORSTER, WM. E.	18 Bedford Street.
FULTON, JAMES	89 Brisbane Street.
FULLARTON, HUGH	103 Finnart Street.
GEMMELL, ALEXANDER, M.A.	Greenock Academy.
GLEGG, ARTHUR T.	Wood Villa, Newark Street.
GLEN, JAMES	19 Octavia Terrace.
GRAHAM, Rev. J. MILLAR	77 Finnart Street.
GRAHAM, WALTER	6 Grey Place.
GRAY, ROBERT	1 Union Street.
GRIER, THOMAS	22 Brisbane Street.
HAMILTON, ROBERT	27 Bentinck Street.
HASTIE, WM.	78 Finnart Street.
HART, J. CAMPBELL	Finnart House.
HENDERSON, Mrs.	13 Kelly Street.
HENDERSON, W. F.	27 Finnart Street.
HERON, CRAWFORD	5 Caddlehill Terrace.
HILL, JAMES H.	84 Union Street.
HILL, JOHN H.	13 Eldon Street.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, G. W.	93 Eldon Street.

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HOUSTON, R. H.	. . .	40 Newark Street.
HUTCHESON, JOHN B.	. . .	51 Brougham Street.
HUTCHISON, JAMES H.	. . .	63 Finnart Street.
HYNDMAN, JOHN G.	. . .	6 Fox Street.
JOHNSTON, JAMES	. . .	22 Robertson Street.
JOHNSTONE, Rev. THOS. F., M.A.	. . .	34 Eldon Street.
KENNEDY, JOHN	. . .	Ardenlea, Barrhill Rd., Gourrock.
KERR, ANDREW,	. . .	97 Brisbane Street.
KERR, JOHN	. . .	53 Eldon Street.
KERR, J. S.	. . .	49 Margaret Street.
KINCAID, JOHN G.	. . .	30 Forsyth Street.
LANG, JOHN	. . .	Rockmount, Eldon Place.
LAURIE, D.	. . .	80 Finnart Street.
LAURIE, WILLIAM	. . .	5 Robertson Street.
LEITCH, ARTHUR O.	. . .	8 Newark Street.
LEITCH, JOHN	. . .	15 Ardgowan Square.
LOCHHEAD, ROBERT	. . .	63 Union Street.
LOVE, JOHN W.	. . .	Royal Bank.
LOVE, JAMES A.	. . .	Royal Bank.
LYLE, ALEX. P.	. . .	25 Newark Street.
LYLE, J. L.	. . .	109 Finnart Street.
LYLE, Miss	. . .	72 Union Street.
LYON, JAMES,	. . .	Sugar Exchange.
MACARTHUR, H. G.	. . .	38 Brisbane Street.
M'CALLUM, G. F.	. . .	53 Esplanade.
M'CLURE, WILLIAM, M.A.	. . .	24 Margaret Street.
MACCUTCHEON, H.	. . .	Town Clerk's Office.
MACDONALD, GEORGE	. . .	101 Finnart Street.
MACDOUGALL, G. R.	. . .	22 Fox Street.
MACDOUGALL, DUGALD	. . .	3 Newark Street.
M'GREGOR, CHARLES	. . .	71 Nicholson Street.
MACINTOSH, NEIL	. . .	32 Ardgowan Street.
MACINTYRE, JOHN D.	. . .	26 Forsyth Street.

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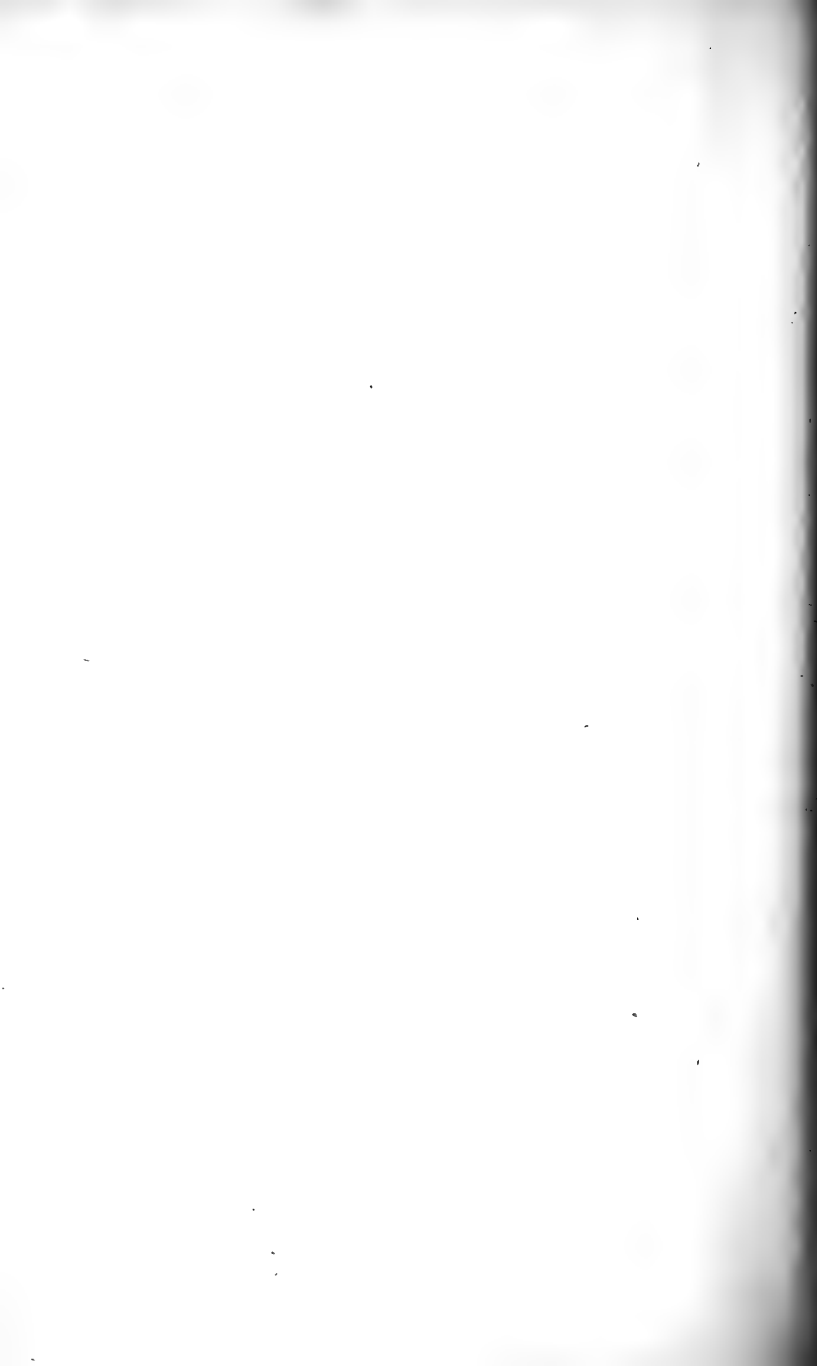
MACKAY, EDWARD, M.B., C.M.	8 George Square.
MACKELLAR, PETER . . .	Parklea, 45 Finnart Street.
M'KINNON, JOHN . . .	2 Lyle Street.
M'KIRDY, ROBERT . . .	78 Union Street.
MACLEAN, ALEX. S. . . .	31 Bank Street.
MACLEAN, JAMES . . . .	3 Octavia Terrace.
MACLEOD, ANGUS . . . .	25 Regent Street.
MACPHAIL, JOHN . . . .	6 Kelly Street.
MACPHERSON, Miss MURIEL . . .	55 Kelly Street.
MACPHERSON, ROBERT . . . .	56 Forsyth Street.
MARSHALL, C. W., M.B., C.M., .	8 Ardgowan Square.
MEYER, VICTOR C. . . . .	56 Finnart Street.
MILLER, THOMAS, Jun. . . . .	2 Fox Street.
MORTON, Miss JEMIMA . . . .	2 Eldon Street.
MORTON, ROBERT . . . . .	1 Wood Street.
MUIR, JAMES D. . . . .	Redlands, Robertson Street.
MUMME, CARL . . . . .	30 Newark Street.
MUNRO, A. CAMPBELL, M.B., D.Sc.	81a Brisbane Street.
MURDOCH, DAVID L. . . . .	42 Newark Street.
MURRAY, GEORGE . . . . .	5 Robertson Street.
NEILL, D. F. D. . . . .	1 Bedford Street.
NEILL, GEO. D. . . . .	39 Newark Street.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A. . .	1 Bedford Street.
NEILL, WALTER GRIEVE . . . .	1 Bedford Street.
NEILL, W. J. . . . .	13 Octavia Terrace.
NEILSON, MATTHEW . . . . .	42 Brisbane Street.
NICOL, DUNCAN . . . . .	2 Octavia Terrace.
NICOL, JOHN S. . . . .	34 Forsyth Street.
NICOLL, JAMES . . . . .	32 Margaret Street.
NIVEN, G. W. . . . .	23 Newton Street.
ORKNEY, ROBERT . . . . .	63 Octavia Terrace.
ORR, RYRIE, M.A. . . . .	35 Esplanade.

PATERSON, JAMES . . . .	Thornleigh, Campbell Street.
PATERSON, T.L., F.I.C., F.C.S.,	59 Finnart Street.
PHILIP, JOHN . . . . .	53 Brisbane Street.
PRENTICE, A. R. . . . .	28 Newark Street.
PRENTICE, DAVID . . . . .	54 Esplanade.
PRENTICE, THOMAS . . . .	45 Ardgowan Street (W.)
PRENTICE, W. G. . . . .	54 Esplanade.
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . .	21 Octavia Terrace.
RENNIE, WILLIAM JOHN . .	55 Finnart Street.
RITCHIE, Rev. A., M.A. . .	60 Forsyth Street.
RODGER, JOHN . . . . .	36 Forsyth Street.
RORISON, THOMAS D. . . .	24 Roxburgh Street.
ROSS, HEW RAMSAY . . . .	2 Robertson Street.
ROWAN, R. HOUSTON . . . .	50 Eldon Street.
ROWLEY, THOMAS . . . . .	Eldon Place.
RUSSELL, JOSEPH . . . . .	The Knowe.
SCOBIE, LAWRENCE, . . . .	57 Brisbane Street.
SCOTT, JOHN, C.B., F.R.S.E. .	Halkshill, Largs.
SERVICE, WILLIAM . . . . .	56 Regent Street.
SHANKLAND, D. COWAN . . .	8 Madeira Street.
SHEARER, ALEX. . . . .	2 Glen Street.
SHEARER, ARCHIBALD . . . .	7 Bentinck Street.
SINCLAIR, THOS. ORD, C.A. .	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S. .	14 Princes Street.
SMITH, Mrs. J. B. . . . .	65 Union Street.
SMITH, M. HECKSTALL . . . .	24 Finnart Street.
SPEIRS, A. J. . . . .	4 Glen Street.
STEEL, JAMES S. . . . .	17 Ardgowan Street.
STEELE, HENRY M. . . . .	74 Finnart Street.
STEWART, JAMES K. . . . .	82 Union Street.
STEWART, WM., M.D., C.M. .	Benview, Barrhill Rd., Gourock.
SYMINGTON, Rev. A. . . . .	13 Ardgowan Street.



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TAIT, JOHN . . . .	25 Brisbane Street.
TAYLOR, H. J. . . .	55 Forsyth Street.
TAYLOR, STAVELEY . . . .	4 Lyle Street.
THOM, W. A. . . . .	38 Brisbane Street.
THOMSON, THOMAS . . . .	69 Newton Street.
THORBURN, JAS. G. . . .	4 Newark Street.
THORNE, ROBERT . . . .	36 Newark Street.
TODD, WILLIAM J. . . .	25 Nelson Street (W.)
TURNBULL, ALEXR. J. . . .	60 Campbell Street.
TURNER, JAMES W. . . .	9 Fox Street.
WALKER, HUGH W. . . .	Bellevue, Johnstone Street.
WALKER, JOHN . . . .	59 Newton Street.
WALKER, LOUSON, C.A. . . .	44 Newark Street.
WALLACE, DUNCAN M. . . .	65 Union Street.
WALLACE, JAMES, M.A., M.D. . .	16 Union Street.
WATSON, W. S. . . . .	33 Union Street.
WILLIAMSON, ALEXANDER . . .	67 Esplanade.
WILSON, E., Jr. . . . .	Woodthorpe, Esplanade.
WILSON, THOMAS . . . .	49 Esplanade.
WILSON, WM. A., M.D., C.M. . .	54 Brisbane Street.
WINGATE, J. S. . . . .	72 Eldon Street.
YOUNG, W. SEMPLE, M.D. . . .	45 Union Street.
YOUNGER, ROBERT L. . . . .	22 Fox Street.



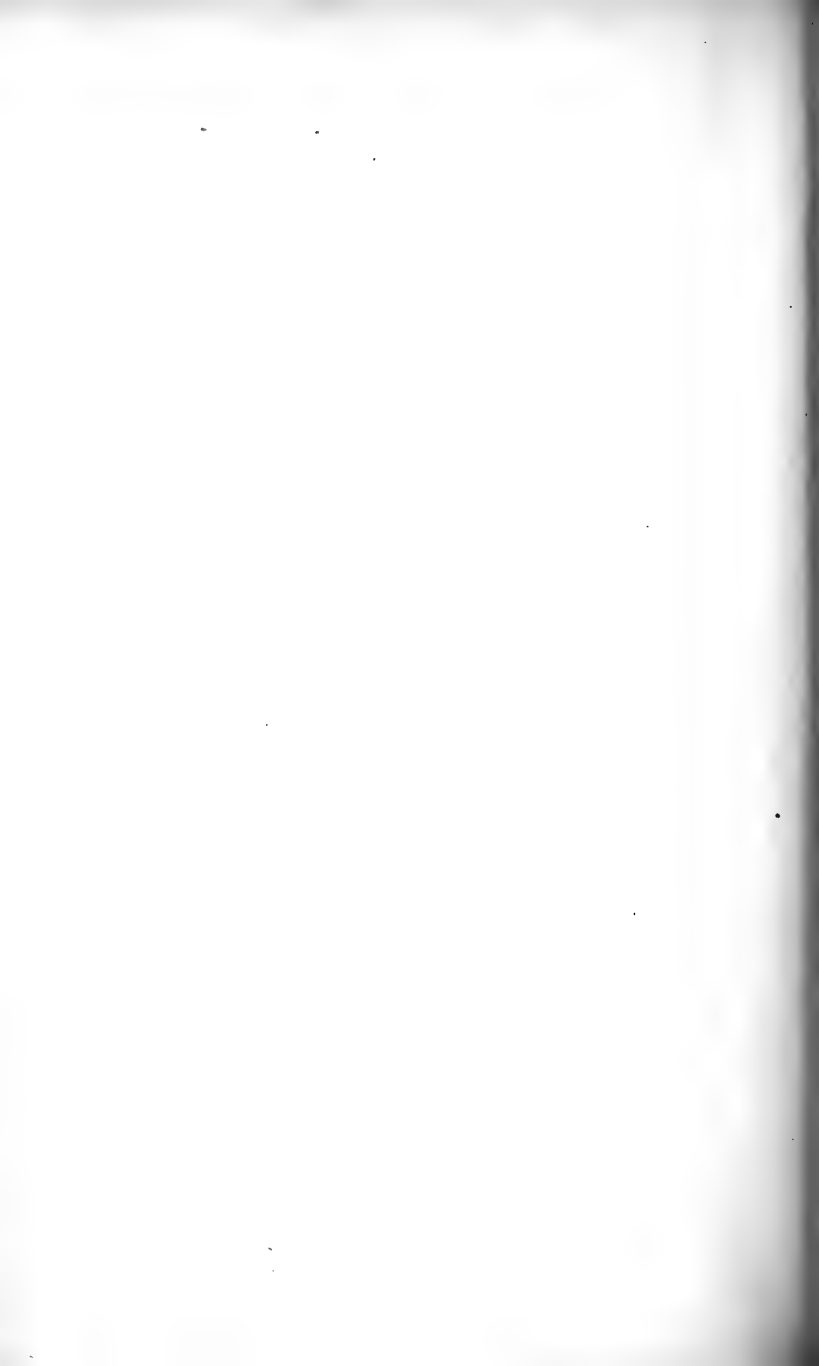














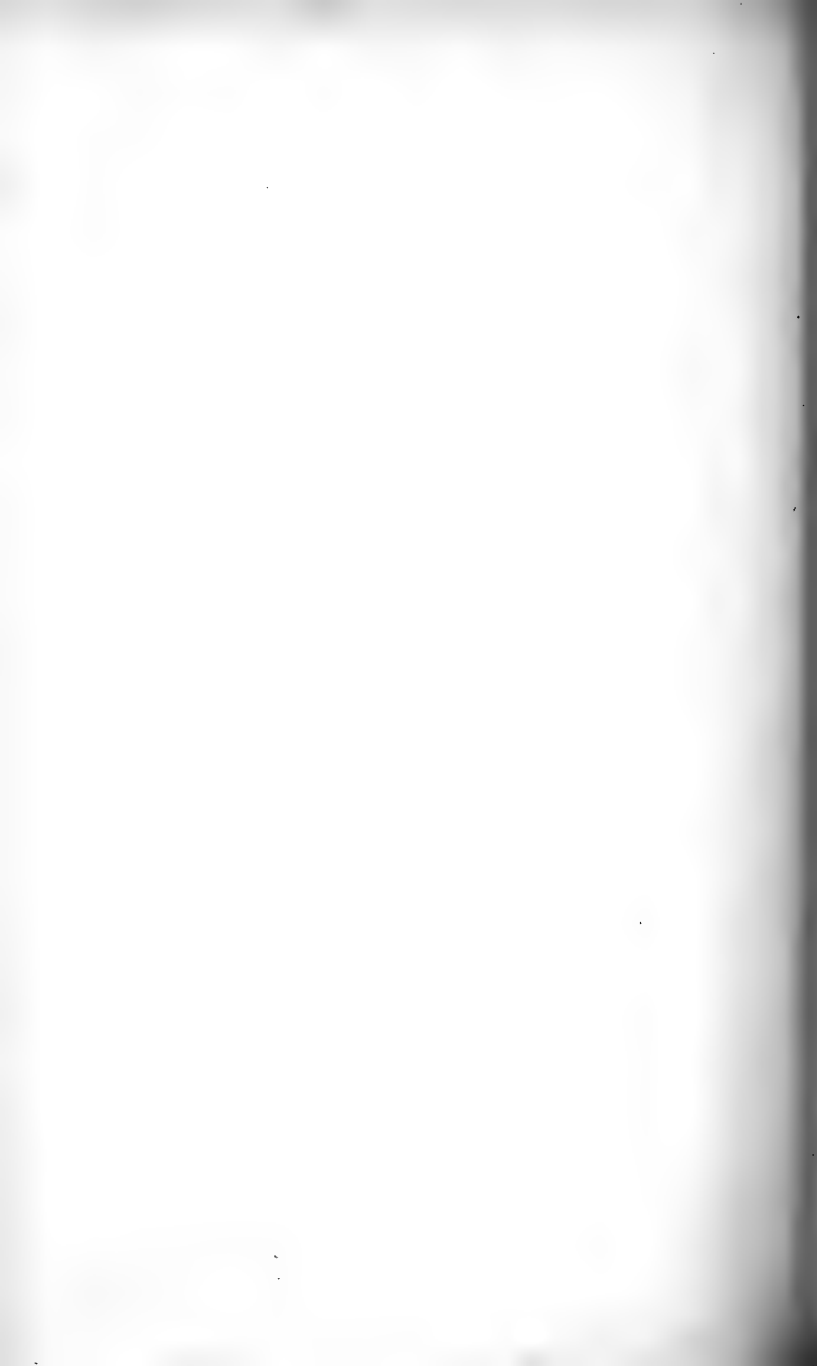




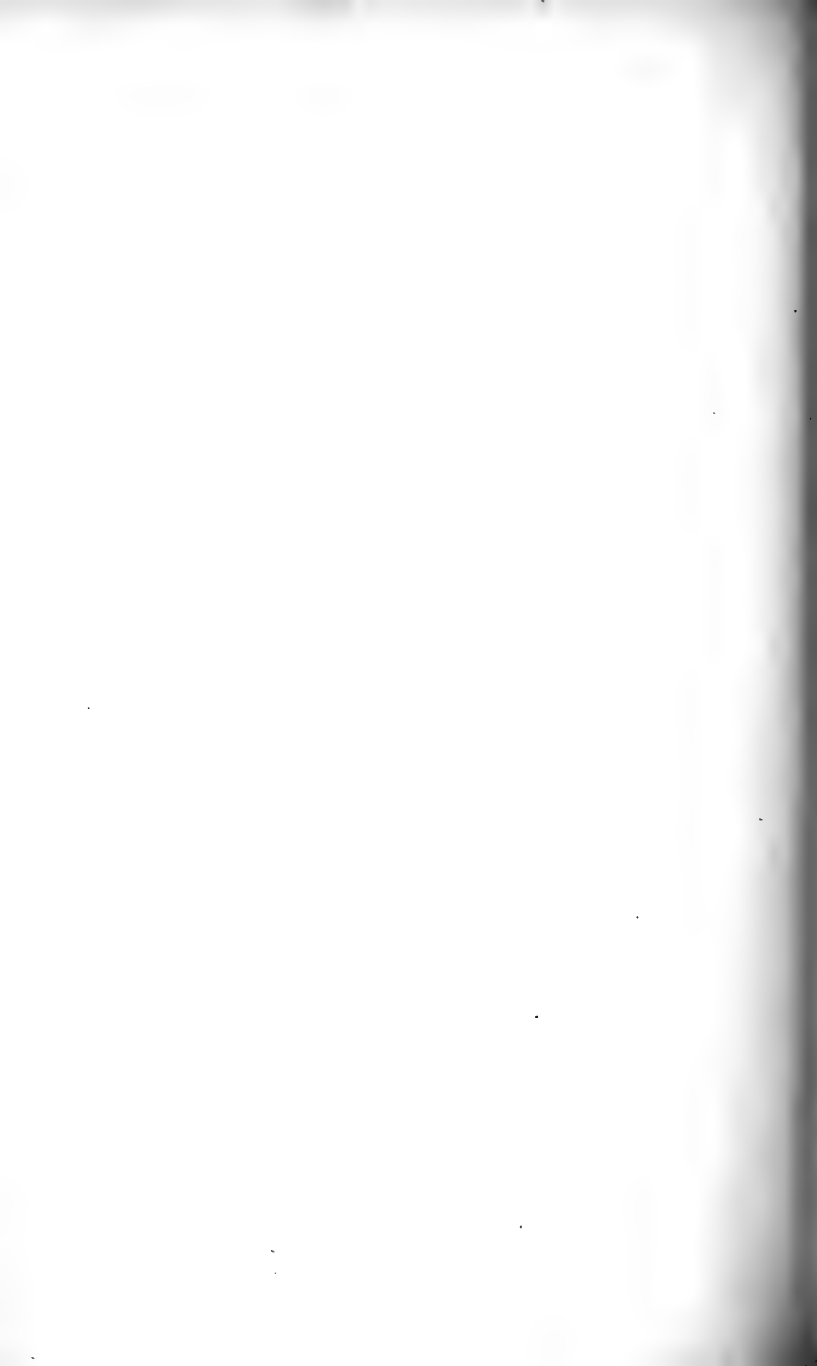






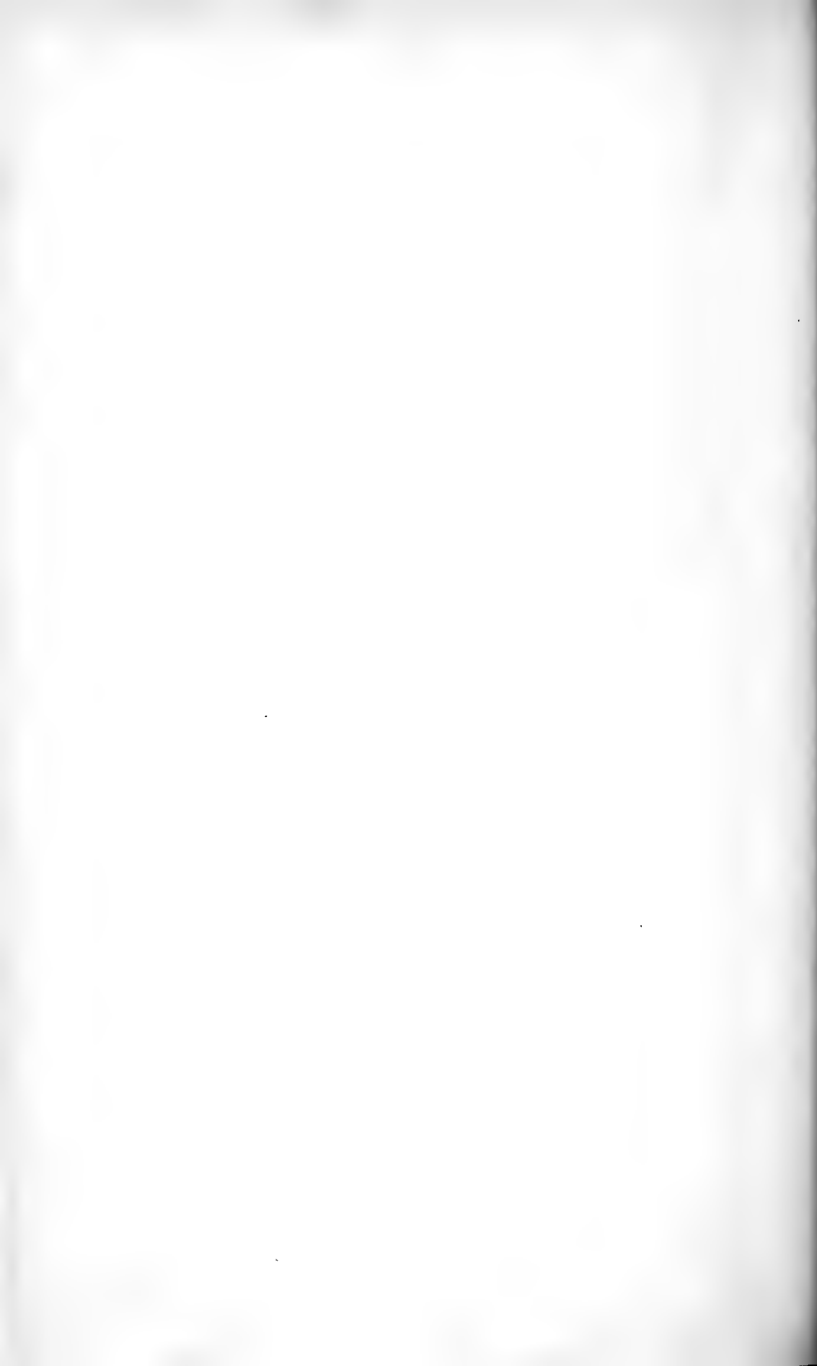












22 SEP 1938



FORTY-FOURTH

# Annual Report

OF THE

Greenock

Philosophical Society

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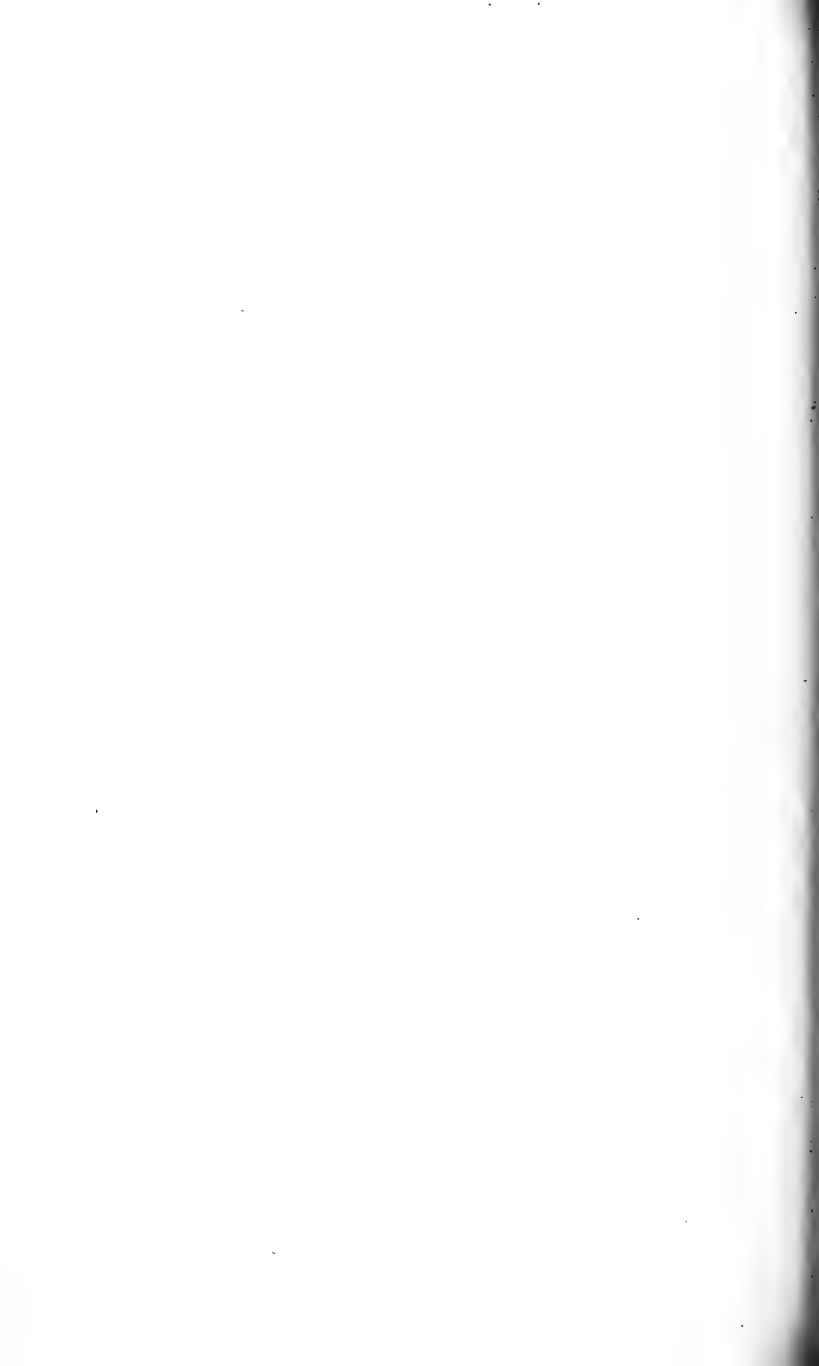
Session 1904-05.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1905.



FORTY-FOURTH

# Annual Report

OF THE

Greenock

Philosophical Society

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Session 1904-05.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1905.



# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1905-1906.

President—SHERIFF A. T. GLEGG.

Vice-Presidents— $\left\{ \begin{array}{l} \text{JOHN G. KINCAID.} \\ \text{RYRIE ORR, M.A.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON.

Secretary—VICTOR C. MEYER.

### Committee of Management.

PRESIDENT.	Dr. C. W. MARSHALL.
VICE-PRESIDENTS.	D. M. WALLACE.
TREASURER.	T. L. PATTERSON, F.I.C., F.C.S.
SECRETARY.	Dr. W. S. COOK.
Rev. CHAS. ALLAN, M.A.	R. A. CLAPPERTON.
W. D. BOYD.	JAMES A. MACLEAN.
W. A. THOM.	*A. CAMPBELL FINLAY.
A. R. PRENTICE.	*GEORGE MURRAY.
W. HILLHOUSE CARMICHAEL.	*JOHN LANG.
JOHN B. HUTCHESON.	*ALEXANDER SHEARER.
H. M. STEELE.	*THOMAS THOMSON.
D. A. MORRISON.	*GEORGE DUNLOP, B.L.
FRED. LEAR WREDE.	

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

*(Elected by Proprietors of Library.)*

A. CAMPBELL FINLAY.	J. A. BROWN.
GEORGE MURRAY.	ANDREW CARMICHAEL.
JOHN LANG.	M. M'C. BROWN.
ALEX. SHEARER.	ROBERT HAMILTON, <i>Chairman.</i>
THOMAS THOMSON, <i>Treasurer.</i>	JAMES D. NEILL.
GEORGE DUNLOP, B.L., <i>Secretary.</i>	T. D. M'MURRICII.

*Curator of Museum—*

*Assistant Curator of Museum—CHARLES BRUNTON.*





# Forty-Fourth Annual Report.

SESSION 1904-1905.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the M'Lean Museum, on Friday Evening, 3rd March, 1905—Sheriff Glegg in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£76	9	7
Tickets Sold—249 Members', at 10/6, . . . . .	£130	14	6
266 Ladies' and Youths', at 3/6, . . . . .	46	11	0
	£177	5	6
Interest on Deposit Receipts, . . . . .	1	4	7
		178	10 1
		£254	19 8

### EXPENSES.

Fees to Lecturers, . . . . .	£92	13	6
Expenses in connection with Lectures, . . . . .	5	14	5
Museum Committee—Lighting and Heating Hall, . . . . .	10	0	0
Printing, Advertising, and Stationery, . . . . .	17	12	6
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	8	12	3
Outlays per Secretary and Treasurer, . . . . .	2	18	3
	£137	10	11
Balance on Deposit Receipt with National Bank, . . . . .	117	8	9
	£254	19	8

## SCIENCE LECTURE FUND.

Balance from previous Session, . . . . .	£50	14	6
Interest from National Bank and Provident Bank, . . . . .	1	1	3
Balance now at Credit, . . . . .	£51	15	9

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 28th February, 1905.—Examined, certified correct, and securities exhibited.

W. A. THOM,  
J. WALLACE ANDERSON, } *Auditors.*

## Statement of Proceedings.

The Committee have pleasure in submitting the Forty-fourth Annual Report of the Society. There is again an increase in the Membership, the total now being 249 ; but by a limitation of the tickets issued for the use of ladies and youths, the number of which was 266, the total number of lecture tickets issued is less than last year, without any decrease in the income of the Society.

Throughout the session the attendance at all the lectures was good.

The Committee regret that the lecture programme, as originally arranged, had to be departed from.

<sup>1904.</sup>  
Oct. 28—"Cloudland." With Lantern Illustrations. By ANDREW WATT, M.A.

Nov. 4—"Charles Dickens: His Life and Works." By J. H. MILLAR, M.A., LL.B., Advocate.

„ 11—"The Story of the Hive." With Lantern Illustrations. By FRANK STEVENS.

„ 18—"Henry Irving: The Actor and his Art." With Lantern Illustrations. By VICTOR C. MEYER.

„ 25—"Radium." With Lantern Illustrations and Experiments. By Dr. WM. HAMPSON, M.A. (Oxon.)

Dec. 2—DRAMATIC RECITAL. By ALEXANDER WATSON.

„ 9—"Tibet." With Lantern Illustrations. By Col. Sir THOS. HOLDICH, K.C.M.G., K.C.I.E., C.B.

1904.

Dec. 16—"Masters of Medicine." With Lantern Illustrations. By  
WALTER COLQUHOUN, M.A., M.B., C.M., F.R.S.E.

1905.

Jan. 21—"British Sculpture of To-day." With Lantern Illustrations.  
by M. H. SPIELMANN, F.S.A.

Feb. 3—"Russia of To-day." With Lantern Illustrations. By the Rev.  
JOHN GLEESON, F.R.G.S.

„ 10—"Plants and their Environment." With Lantern Illustrations.  
By ISAAC BAYLEY BALFOUR, M.D., D.Sc., LL.D., M.A.,  
F.R.S.

„ 17—"Schubert." With Musical Illustrations. By Mrs. J. KENNEDY  
FRASER, assisted by Miss MARGARET KENNEDY.

„ 24—"Nature's Armoury—Some Defences and Devices of Animal  
Life." With Lantern Illustrations. By Dr. ANDREW  
WILSON, F.R.S.E., F.I.S.

Through illness three of the lecturers were compelled to cancel their engagements. The Committee were able in two cases to provide lectures in substitution, but in the case of the Watt Anniversary Lecture it was impossible to make other arrangements, and the Committee were reluctantly compelled to forego it for this year. Mr. S. W. Barnaby is, however, willing to undertake the duty for next year.

While no Popular Science Lecture Course was undertaken during the session the Committee have had the matter constantly before them, and are in hopes of being able to arrange for such a course during the present year. The balance at credit of the Science Lecture Fund is now £51 15s. 9d.

The Committee regretfully place on record the loss the Society has sustained during the year by the deaths of Dr. James Wallace and Mr. J. Campbell Hart. Dr. Wallace will be much missed not only for the valuable services that he rendered the Society in various

capacities, but also for his regular attendance at all its meetings. His interest in its affairs was active, and his opinion and advice, so freely given, were always greatly appreciated. Mr. Hart acted as Treasurer for a term and ever took a warm interest in the doings of the Society.

At a joint meeting of the Members of the Society and the Proprietors of the Greenock Library, held on 26th December, 1904, the Annual Report of the Museum and Hall Committee was submitted. The Society's representatives on this Committee, Messrs. George Dunlop and Thomas Thomson were re-elected.

The Office-bearers who retire at this time are Mr. T. L. Patterson, Vice-President, and the following Members of Committee—Messrs. John Duncan, William Cook, B.A., J. Wallace Anderson, Alex. Allan, C.A., Robert Macpherson.

## M'Lean Museum and Lecture Hall.

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### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT,

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society, held on 26th December, 1904.*

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The annual joint meeting of the Proprietors of the Greenock Library and Members of the Philosophical Society was held in the Society's Hall yesterday afternoon to receive the report of the Committee of Management of the Museum and Lecture Hall. Mr. A. Campbell Finlay presided, and among those present were Mr. Andrew Carmichael, Mr. T. L. Patterson, Mr. William Cook, Mr. W. Hillhouse Carmichael, Mr. W. Adamson, Mr. J. D. Neill, Mr. George Dunlop (Secretary), Mr. Thomas Thomson (Treasurer).

The Twenty-seventh Annual Report of the Committee of Management was read by Mr. George Dunlop, as follows:—At the Annual Statutory Meeting held in January, Mr. A. Campbell Finlay was elected Chairman, and the only change in the Membership of the Committee was the appointment of Mr. Alexander Shearer in place of Dr. Calder, who had left town. The Committee record with much regret the death during the year of Dr. James Wallace, who acted for a number of years as one of the representatives of the Library Proprietors, and took a great interest in the management of the Museum. The Committee desire to thank all who have contributed objects either as gifts or on loan. Among the additions

should be specially mentioned those which are due to the work of a young science student in the Greenock Academy—Mr. Edward S. Russell, Port-Glasgow—who offered to prepare for the Museum a zoological “type collection” on lines similar to those on which the collection in the Royal Scottish Museum, Edinburgh, is based. Mr. Russell has been devoting his spare time to this for over a year, carrying on his work in the Museum workshop, and the specimens which he has already prepared should be of considerable value to students of zoology, as well as of interest to the general visitor. A fine specimen of fallow deer from Inchmurrin Island, Loch Lomond, was presented by the Duke of Montrose, and is at present in course of being mounted. Early in the year the Committee took into consideration the possibility of obtaining some new pictures for the Lecture Hall. A report was obtained from experts on the examples of the work of the old masters, which had been on the walls for over twenty years, and as a result of consideration of this report it was thought desirable not to hang several of these pictures. With a view to getting additional pictures, application was made for a loan from the National Gallery, London, and after some correspondence and negotiation with the authorities, seven pictures were obtained on loan for a period of at least four years. These are now on the walls, and have been much admired by competent judges. Among them are a painting by Turner, valued at £2,000; one by Both, valued at £800; one by Hobbema, valued at £300—the total value of the National Gallery collection now in the hall being £4,520. In carrying through this matter the Committee received much assistance from Mr. James Reid, M.P., who interviewed the Directors of the National Gallery in London, and it was largely due to his services that so fine a selection of paintings was obtained for Greenock. It should also be mentioned that several of the old pictures have been cleaned and revarnished, and not only is the appearance of the Hall much improved by these changes, but the collection of paintings is well worthy of inspection and study. In connection with the additions to the art section, mention may be made of an interesting lithograph,

gifted by a Member of Committee, which has been hung in the Committee Room. The subject is Faraday lecturing before the Royal Institution, London, 27th December, 1855. Among the audience are the late Prince Albert and his sons, the Prince of Wales (now King Edward) and Prince Alfred, and many men of note in the scientific world of that time. The collection of old coins in the Museum has just been arranged and classified by the honorary treasurer, Mr. Thomas Thomson, who was assisted in the work by the British Museum authorities. The Committee further report that the Lecture Hall has been re-decorated at a cost of £50, the work having been carried out in a satisfactory manner during the summer recess. Mr. Brunton has charge of the Museum and Lecture Hall, and the Committee have pleasure in recording their satisfaction with the manner in which his duties are discharged. The collections are well cared for, and are in good state of preservation. The Members of Committee who retire by rotation at this time are Mr. J. D. Neill from the Library Proprietors, and Mr. Thomas Thomson and Mr. George Dunlop from the Philosophical Society. They are all eligible for re-election. Mr. Dunlop also submitted the report by the Curator giving a list of the specimens gifted or loaned to the Museum during the year.

Mr. Thomas Thomson (treasurer) read the financial statement, which showed the revenue for the past year to be £371 13s 9d, and the expenditure £396 5s 3d, leaving a debit balance of £24 11s 6d, but as a credit balance of £71 5s 6d was brought forward from last year, there is a net balance on hand of £46 14s.

The Chairman, in moving the adoption of the reports, said that although there had not been many changes during the year, some advance had been made, notably in connection with the new pictures for the Lecture Hall. A number of the examples of the old masters had been on the walls of the Hall for many years, and although these were of fine quality, it was thought better to have a change. The loan collection which they had received from London was for a

period of four years, and at the end of that time they would ask for another loan of pictures. In the Museum, too, some advance had been made. In this connection he might mention the zoological type collection, which was being prepared by Mr. Edward S. Russell, who had been introduced to them by Mr. Andrew Carmichael. Mr. Russell was carrying the work out in a highly satisfactory manner. When visiting the Museum strangers remarked on the excellent manner in which the specimens were mounted and labelled. As an instance of this, he might state that Mr. Paton, the curator of the Glasgow Museum and Art Galleries, recently expressed himself as highly delighted with the superior manner in which the specimens were shown in the Greenock Museum. The late Mr. Rennie gave great attention to this matter for many years, and it was satisfactory to state that his successor was carrying on the work in an admirable way.

Mr. Andrew Carmichael, in seconding the adoption of the reports, said that when he proposed that Mr. Russell should undertake the work which he indicated that he was prepared to carry out, some of the older Members of the Committee were inclined to think that it was a great amount of responsibility to put upon such a young man. Being now at college, it was only in his spare time that Mr. Russell could do the work, but those who hesitated to put the responsibility on Mr. Russell were the first to admit that the work he produced was exceedingly creditable.

The reports were unanimously adopted, and on the motion of the Chairman, Mr. J. D. Neill and Mr. T. D. M'Murich were elected representatives of the Library Proprietors on the Museum Committee.

Mr. T. L. Patterson moved that Mr. George Dunlop and Mr. Thomas Thomson be the Society's representatives on the Museum Committee, which was agreed to.

This was all the business.



# LIST OF MEMBERS FOR 1904-1905.

## 1.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	. . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	. . . . .	1863
EDWARD CAIRD, M.A., LL.D., D.C.L.,	. . . . .	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	. . . . .	1890
F. P. PURVIS, WH. SC.,	. . . . .	1902

## II.—Ordinary Members.

ADAM, JOHN	. . . . .	29a Finnart Street.
ADAM, WILLIAM	. . . . .	12 Newark Street.
ADAMSON, WILLIAM	. . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES	. . . . .	1 Newark Street.
AITKEN, JAMES	. . . . .	78 Eldon Street.
ALLAN, ALEXANDER, C.A.	. . . . .	39 Margaret Street.
ALLAN, Rev. C., M.A.	. . . . .	93 Newton Street.
ALLAN, JOHN	. . . . .	17 Newton Street.
ALLAN, WILLIAM, M.D.	. . . . .	33 Union Street.
ANDERSON, J. WALLACE	. . . . .	97 Brisbane Street.
ANDERSON, Mrs. JAMES,	. . . . .	61a Finnart Street.
ARCHIBALD, THOMAS P.	. . . . .	37 Fox Street.
AULD, WILLIAM	. . . . .	79 Newton Street.
BAIRD, ARTHUR R.	. . . . .	50 Brisbane Street.
BAIRD, DAVID	. . . . .	Hunter Villa, Gourrock.
BATHGATE, ALEXANDER	. . . . .	42 Robertson Street.
BEALE, Miss	. . . . .	56 Union Street.
BENSON, ROBERT	. . . . .	6 Bank Street.
BLACK, A. J.	. . . . .	16 Ardgowan Square.
BLACK, W. H.	. . . . .	40 Finnart Street.
BLAKE, MATTHEW	. . . . .	62 Forsyth Street.
BLACKWOOD, CRAIG	. . . . .	Port-Glasgow.
BODEN, JOHN	. . . . .	68 South Street.

BOYD, Miss SARAH G.	39 Union Street.
BOYD, W. D.	90 Finnart Street.
BROWN, J. A.	7 Ardgowan Street.
BROWN, J. D.	53 Union Street.
BROWN, M. M'C.	67 Eldon Street.
BROWN, W. A.	16 Eldon Street.
BRUCE, JAMES R.	2 Sandringham Terrace.
BRADLEY, GEORGE	Raeburn, Victoria Rd., Gourrock.
BUBB, HERBERT J.	12 Margaret Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMPBELL, Miss	55 Esplanade.
CAMERON, JOHN	66 Finnart Street.
CARMICHAEL, ANDREW	41 Union Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	44 Ardgowan Street (W.)
CARMICHAEL, WM. H.	76 Finnart Street.
CHALMERS, JAMES	3 Finnart Road.
CLAPPERTON, ROBERT A.	83 Brisbane Street.
CLARK, W. B.	42 Robertson Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, J. D.	53 Octavia Terrace.
COLQUHOUN, DUNCAN	38 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	3 Ardgowan Square.
COSH, THOMAS R.	Benview, Barrhill Road, Gourrock.
COWAN, C. GORDON,	95 Finnart Street.
CRAWFORD, JAMES	30 Ardgowan Street (W.)
CRAWFORD, J. W.	41 Newark Street.
CRAWFORD, JOHN F.	30 Nelson Street.
CRAWFORD, THOMAS	61 Esplanade.
CUNNINGHAM, T. A.	87 Brisbane Street.
CURTIS, Miss E. A.	Ebberly, 27 Octavia Terrace.
CURTIS, W. H.	38 Newark Street.
DEMPSTER, DUNCAN F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DEVLIN, WILLIAM	4 Nelson Street, (W.)

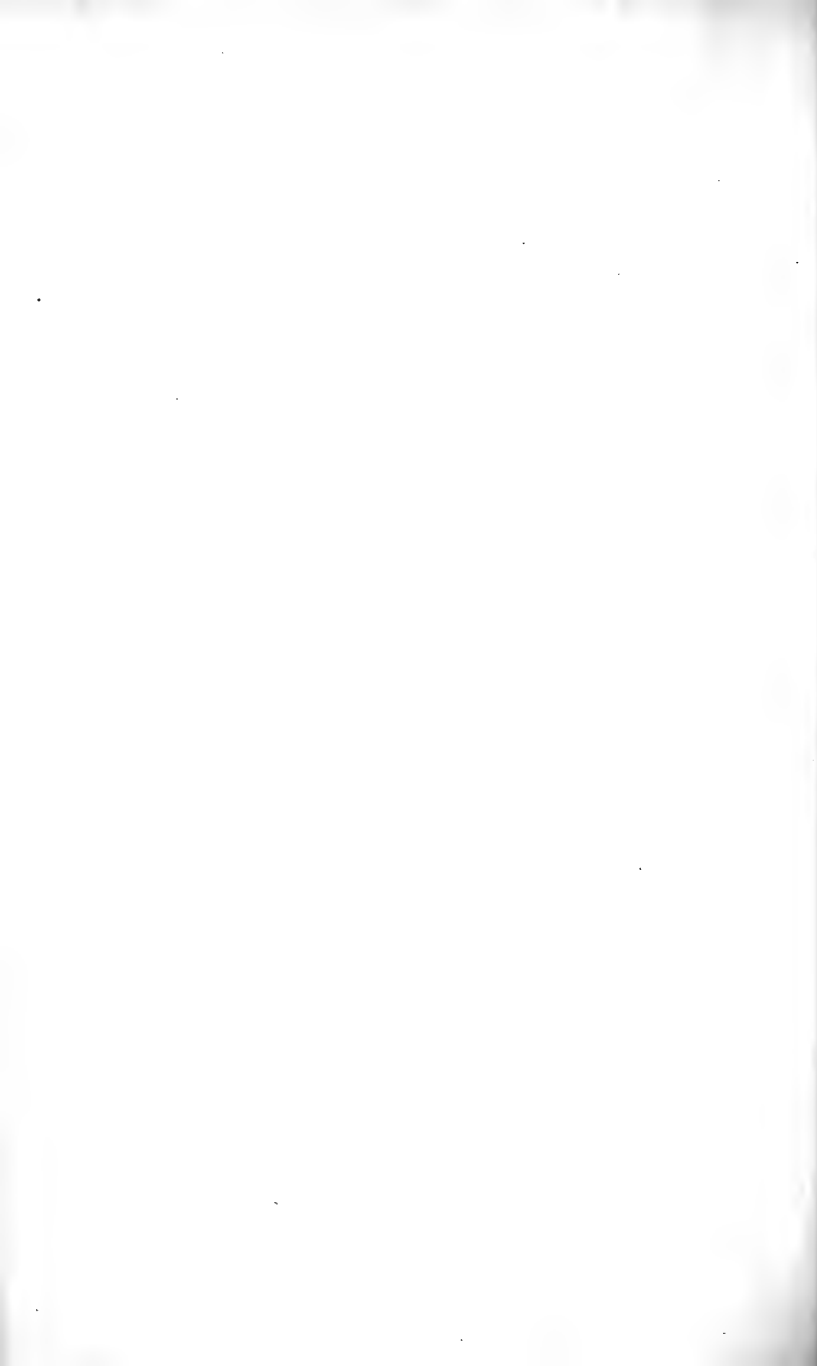
DICK, WM. JR. . . . .	62 Kelly Street.
DICKSON, W. A. . . . .	National Bank.
DONALD, JAMES . . . . .	24 Forsyth Street.
DOWNIE, ANDREW . . . . .	41 Fox Street.
DRUMMOND, JOHN, JR. . . . .	60 South Street.
DRUMMOND, NEIL . . . . .	60 South Street.
DUNCAN, JOHN . . . . .	Ardenclutha, Port-Glasgow.
DUNCAN, SAMUEL . . . . .	4 Eldon Street.
DUNLOP, GEORGE, B.L. . . . .	95 Newton Street.
DUNLOP, MALCOLM, M.A., LL.B. . . . .	95 Newton Street.
DUNLOP, JOHN, JR. . . . .	95 Newton Street.
DUFF, Miss . . . . .	52 Eldon Street.
ELLOIT, ROBERT . . . . .	23 Ardgowan Street.
ERSKINE, D. M. . . . .	63 Finnart Street.
FINLAY, A. CAMPBELL . . . . .	62 Esplanade.
FINDLAY, JOHN . . . . .	20 Union Street.
FISHER, MRS. R. F. . . . .	40 Forsyth Street.
FORBES, R. S. . . . .	31 Finnart Street.
FRAME, JAMES . . . . .	2 Bentinck Street.
FULLARTON, HUGH . . . . .	103 Finnart Street.
FULLARTON, ROBERT . . . . .	103 Finnart Street.
GEMMELL, ALEXANDER, M.A. . . . .	Greenock Academy.
GLEGG, ARTHUR T. . . . .	Wood Villa, Newark Street.
GLEN, JAMES . . . . .	19 Octavia Terrace.
GORDON, JOHN . . . . .	52 Eldon Street.
GRAY, ROBERT . . . . .	23 Patrick Street.
GRIEVE, WALTER RICHARDSON . . . . .	49 Margaret Street.
HAMILTON, ROBERT . . . . .	16 South Street.
HART, J. CAMPBELL, . . . . .	Finnart House.
HOY, GEORGE, JR. . . . .	14 Kelly Street.
HYNDMAN, J. G. . . . .	6 Fox Street.
HENDERSON, MRS. . . . .	13 Kelly Street.
HENDERSON, W. F. . . . .	53 Forsyth Street.
HENRY, Miss, . . . . .	61a Finnart Street.
HERON, ANDREW C. . . . .	5 Caddlehill Terrace.
HILL, JAMES H. . . . .	84 Union Street.
HILL, JOHN H. . . . .	13 Eldon Street.
HOUSTON, ANDREW . . . . .	11 Forsyth Street.
HOUSTON, R. C. . . . .	40 Newark Street.

HUNTER, JOHN P.	Union Bank, Greenock.
HUTCHESON, JAMES	30 Brisbane Street.
HUTCHESON, JOHN B.	27 Finnart Street.
HUTCHISON, JAMES H.	26 Newark Street.
INGLIS, Mrs. R.	44 Eldon Street.
JOHNSTON, JAMES	12 Patrick Street.
KERR, JOHN	The Club.
KERR, CHAS. F.	Rosemount.
KINCAID, JOHN G.	30 Forsyth Street.
LAIRD, JAMES	35 Newton Street.
LANG, JOHN	Kilmacolm.
LAURIE, WILLIAM,	15 Robertson Street.
LEITCH, ARTHUR O.	8 Newark Street.
LEITCH, JOHN	15 Ardgowan Square.
LINDSAY, MATTHEW	23 Brisbane Street.
LOVE, JOHN W.	Royal Bank.
LOVE, JAMES A.	Royal Bank.
LYLE, ALEX. P.	25 Newark Street.
LYLE, J. L.	109 Finnart Street.
LYON, JAMES	Sugar Exchange.
MACAULAY, Miss	58 Forsyth Street.
M'CLURE, WILLIAM, M.A.	24 Margaret Street.
MACCUTCHEON, H.	Town Clerk's Office.
MACDOUGALL, DUGALD	3 Newark Street.
MACDOUGALL, G. R.	22 Fox Street.
MACDONALD, DONALD	41 Margaret Street.
MACDONALD, GEORGE	101 Finnart Street
MACFARLAN, Miss ELLA	75 Union Street.
MACFARLAN, ROBERT, C.A.	14 Eldon Street.
M'GREGOR, CHARLES	26 Brisbane Street.
M'GREGOR, NEIL	2 Sandringham Terrace.
MACINTOSH, NEIL	32 Ardgowan Street.
MACINTYRE, JOHN D.	42 Finnart Street.
MACKAY, EDWARD, M.B., C.M.	8 George Square.
MACKELLAR, PETER	Parklea, 45 Finnart Street.
MACKELVIE, JAMES P.	10 Forsyth Street.
M'KINNON, JOHN	2 Lyle Street.
M'KIRDY, ROBERT	78 Union Street.
MACLEAN, ALEX. S.	31 Bank Street.

MACLEAN, JOHN . . .	15 Robertson Street.
MACLEAN, JAMES A. . .	3 Octavia Terrace.
MACLELLAND, W. M. . .	29 Finnart Street.
MACLEOD, ANGUS . . .	25 Regent Street.
MACMILLAN, DAVID . . .	14 Kelly Street.
M'NEIL, JAMES . . .	18 Bentinck Street.
MACONIE, MARTIN . . .	28 Bank Street.
MACONIE, PETER . . .	40 Mearns Street.
MACPHERSON, DAVID . . .	15 Robertson Street.
MACPHERSON, ROBERT . . .	56 Forsyth Street.
MARSHALL, C. W., M.B., C.M. . .	8 Ardgowan Square.
MELROSE, ALEX. . . .	Lily Bank, Port-Glasgow.
MENZIES, ALEX. . . .	21 Brisbane Street.
MEYER, VICTOR C. . . .	56 Finnart Street.
MILLEN, A. . . . .	Ardgowan Distillery.
MILLER, THOMAS, Jun. . . .	2 Fox Street.
MILLER, WILLIAM . . . .	9 Octavia Terrace.
MORRISON, D. A. . . . .	Lyle Road.
MORTON, ROBERT . . . .	1 Wood Street.
MUIR, JAMES D. . . . .	Redlands, Robertson Street.
MUMME, CARL . . . . .	30 Newark Street.
MURRAY, GEORGE . . . .	25 Bentinck Street.
NEILL, GEO. D. . . . .	39 Newark Street.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A. . .	1 Bedford Street.
NEILL, WALTER GRIEVE . . . .	1 Bedford Street.
NEILSON, MATTHEW . . . .	46 Brisbane Street.
NICOL, DUNCAN . . . . .	2 Octavia Terrace.
NICOL, DUNCAN, Jr. . . . .	34 Forsyth Street.
NICOL, JOHN S. . . . .	34 Forsyth Street.
NICOLL, JAMES . . . . .	32 Margaret Street.
ORR, RYRIE, M.A. . . . .	35 Esplanade.
ORR, DANIEL . . . . .	41 Dempster Street.
PATERSON, Mrs. . . . .	20 Eldon Street.
PATERSON, DAVID . . . . .	30 Ardgowan Street.
PATERSON, JAMES . . . . .	33 Finnart Street.
PATERSON, JAMES . . . . .	Thornleigh, Campbell Street.
PATTERSON, T.L., F.I.C., F.C.S.,	59 Finnart Street.
PATRICK, JOHN B. . . . .	36 Campbell Street

PAUL, W. B.	53 Newton Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, J. G.	54 Esplanade.
PRENTICE, THOMAS	45 Ardgowan Street (W.)
QUIN, WILLIAM A.	8 Margaret Street.
RAMSAY, ALEX.	15 South Street.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RATCLIFF, JOHN	69 Dempster Street.
RICHARDSON, ROBERT	27 Finnart Street.
ROBSON, JOHN, Jr.	62 Brisbane Street.
RODGER, JOHN	36 Forsyth Street.
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	48 Brisbane Street.
ROSS, HUGH M.	63 Esplanade.
ROUGVIE, JAMES	32 Ardgowan Street, (W.)
ROWAN, GEORGE	41 Ardgowan Street.
ROWAN, R. HOUSTON	50 Eldon Street.
ROWLEY, THOMAS	Eldon Place.
RUSSELL, JOSEPH	The Knowe.
RUSSELL, ANDREW	7 Bentinck Street
SCOBIE, LAWRENCE,	53 Brisbane Street.
SCOTT, JOSEPH D.	65 Finnart Street.
SCOTT, R. L.	Silwood, Margaret Street.
SERVICE, WILLIAM	56 Regent Street.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ARCHIBALD	93 Eldon Street.
SHEPHERD, WILLIAM	13 Brisbane Street.
SINCLAIR, THOS. ORD, C.A.	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S.	14 Princes Street.
SPEIRS, A. J.	4 Glen Street.
STARK, Mrs.	63 Union Street.
STEEL, JAMES S.	17 Ardgowan Street.
STEELE, HENRY M.	74 Finnart Street.
STEWART, JAMES K.	58 Esplanade.
STEWART, WM., M.D., C.M.	Benview, Barrhill Rd., Gourrock.
STEWART, ANDREW	14 Newark Street
STEWART, THOMAS O.	45 Union Street.
STEWART, THOMAS O., Jr.	45 Union Street.

TANNOCK, QUINTIN, JR.	. . .	8 Brisbane Street.
TAYLOR, H. J.	. . .	55 Forsyth Street.
TAYLOR, STAVELEY	. . .	4 Lyle Street.
THOM, W. A.	. . .	42 Brisbane Street.
THOMSON, THOMAS	. . .	69 Newton Street.
THORBURN, JAS. G.	. . .	4 Newark Street.
THORNE, ROBERT	. . .	36 Newark Street.
TODD, WILLIAM J.	. . .	29 Nelson Street (W.)
TURNBULL, ALEXR. J.	. . .	60 Campbell Street.
TURNER, JAMES W.	. . .	9 Fox Street.
WALKER, HUGH W.	. . .	Bellevue, Johnstone Street.
WALKER, JOHN	. . .	59 Newton Street.
WALKER, LOUSON, C.A.	. . .	44 Newark Street.
WALKER, WM., L.R.C.P.S.E.	. . .	14 Union Street.
WALLACE, DUNCAN M.	. . .	65 Union Street.
WATSON, W. S.	. . .	58 Brisbane Street.
WEATHERHEAD, GEORGE	. . .	Commercial Bank.
WHYTE, GEORGE N.	. . .	1 Armadale Place.
WILLIAMSON, ALEXANDER	. . .	67 Esplanade.
WILSON, E., JR.	. . .	Woodthorpe, Esplanade.
WILSON, MRS. JAMES	. . .	Thornhill, Ardgowan Street
WILSON, Miss	. . .	17 Finnart Street.
WILSON, ROBERT	. . .	9 Shaw Place.
WINGATE, JOHN S.	. . .	72 Eldon Street.
WREDE, FRED. LEAR.	. . .	27 Bentinck Street.
WRIGHT, ALFRED E.	. . .	21 Bentinck Street.
WYLIE, Miss	. . .	61a Finnart Street.
YOUNGER, ROBERT L.	. . .	22 Fox Street.







PRESENTED

22 SEP 1938



22 SEP 197



FORTY-FIFTH

ANNUAL REPORT

OF THE

Greenock

Philosophical Society

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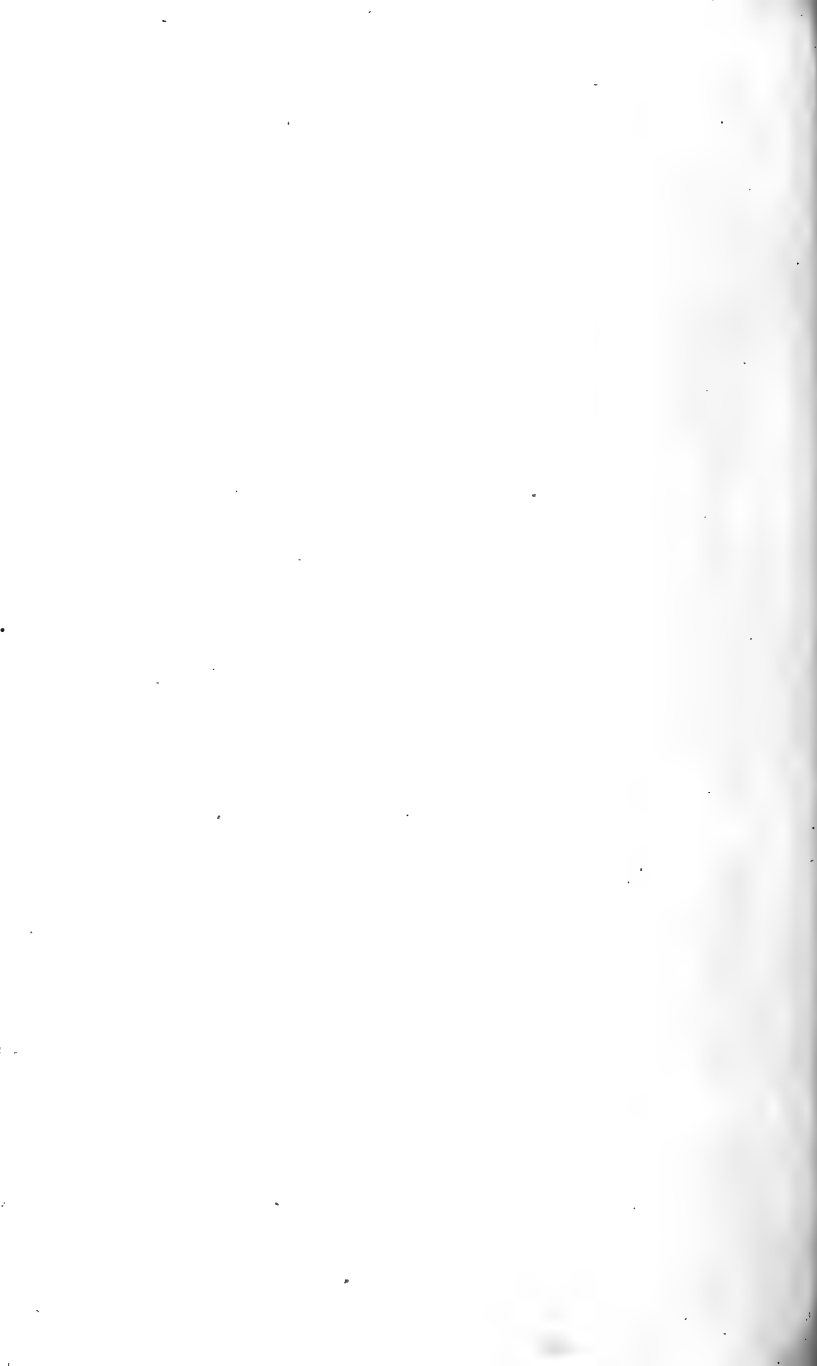
SESSION 1905-1906.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1906.



FORTY-FIFTH

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GREENOCK :

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1906.



# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1906-1907.

President—JOHN G. KINCAID.

Vice-Presidents— $\left\{ \begin{array}{l} \text{RYRIE ORR, M.A.} \\ \text{REV. CHARLES ALLAN, M.A.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON.

Secretary—VICTOR C. MEYER.

### Committee of Management.

PRESIDENT.	JAMES A. MACLEAN.
VICE-PRESIDENTS.	Dr. WM. ALLAN.
TREASURER.	THOMAS ROWLEY.
SECRETARY.	W. A. DICKSON.
JOHN B. HUTCHESON.	T. O. STEWART.
H. M. STEELE, C.A.	D. S. MACPHERSON.
D. A. MORRISON.	*JOHN LANG.
FRED. LEAR WREDE.	*ALEXANDER SHEARER.
Dr. C. W. MARSHALL.	*THOMAS THOMSON.
D. M. WALLACE.	*GEORGE DUNLOP, B.L.
T. L. PATTERSON, F.I.C., F.C.S.	*A. CAMPBELL FINLAY.
Dr. W. S. COOK.	*R. A. CLAPPERTON.
JOHN S. WINGATE.	

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

JOHN LANG.  
ALEX. SHEARER, *Chairman.*  
THOMAS THOMSON, *Treasurer.*  
GEORGE DUNLOP, B.L., *Secretary.*  
A. CAMPBELL FINLAY.  
R. A. CLAPPERTON.

*(Elected by Proprietors of Library.)*

J. A. BROWN.  
ANDREW CARMICHAEL.  
M. M'C. BROWN.  
ROBERT HAMILTON.  
JAMES D. NEILL.  
T. D. M'MURRICH.

*Curator of Museum—*

*Assistant Curator of Museum—*CHARLES BRUNTON.





# Forty-Fifth Annual Report.

SESSION 1905-1906.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the M'Lean Museum, on Friday Evening, 2nd March, 1906—John G. Kincaid, Esq., President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£117	8	9
Tickets Sold—252 Members', at 10/6, . . . . .	£132	6	0
279 Ladies' and Youths', at 3/6, . . . . .	48	16	6
	£181	2	6
Bank Interest on Deposit Receipt, . . . . .	1	18	4
		183	0 10
		£300	9 7

### EXPENSES.

Fees to Lecturers, . . . . .	£107	8	0
Expenses in connection with Lectures, . . . . .	22	12	0
Museum Committee—Lighting and Heating Hall, . . . . .	10	0	0
Printing, Advertising, and Stationery, . . . . .	33	3	6
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	8	16	3
Gratuity to former Collector, . . . . .	5	5	0
Outlays per Secretary and Treasurer, . . . . .	4	8	0
	£191	12	9
Balance on Deposit Receipt with National Bank, . . . . .	108	16	10
	£300	9	7

### SCIENCE LECTURE FUND.

Balance from previous Session, . . . . .	£51	15	9
Bank Interest, . . . . .	0	16	1
	£52	11	10
<i>Deduct</i> —Deficit on Combe Trust Course of 8 Lectures in Town Hall, from September 26th till November 28th, 1905, . . . . .	20	6	0
Balance in Provident Bank, . . . . .	£32	5	10

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 28th February, 1906.—Examined, certified correct, and securities exhibited.

ROB. A. CLAPPERTON, }  
DAN. A. MORRISON, } *Auditors.*

## Statement of Proceedings.

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The Committee have pleasure in submitting the Forty-Fifth Annual Report of the Society. There is again an increase in the Membership, the number of Ordinary Members being 252—the largest in the history of the Society—while the number of tickets issued for the use of ladies and youths amounts to 279. The Membership of the Society and the issue of special tickets for use in Members' households is now restricted solely by the size of the Society's hall, many applications for membership having been refused.

This is very gratifying, as was also the large attendance at the weekly meetings, which shows a general interest in the purposes of the Society.

The lecture programme as originally arranged was carried out in its entirety.

1905.

Oct. 27—OPENING LECTURE—“*The Force of Circumstances: A Comedy Lecture.*” By Sheriff LYELL, of Paisley.

Nov. 3—“*Airships, Balloons, and Flying Machines.*” With Experimental Illustrations. By ERIC STUART BRUCE, M.A., F.R. Met. Soc.

„ 10—“*Russia: Yesterday and To-Day.*” By BERNARD PARES, M.A.

„ 17—“*Untamed Europe, or Wild Days in Montenegro.*” With Lantern Illustrations. By Miss M. EDITH DUNCAN.

„ 24—DRAMATIC RECITAL. By Miss LILIAN HOVEY.

Dec. 1—“*Shall we Abolish the Inevitable?*” By GILBERT KEITH CHESTERTON.

1905.

Dec. 8—"Through the Battle Smoke: The Siege of Port Arthur as I saw it." With Lantern Illustrations. By ELLIS ASHMEAD BARTLETT.

„ 15—"Submarines and other Modern Naval Developments." With Lantern Illustrations. By Sir W. H. WHITE, K.C.B., LL.D., F.R.S.

1906.

Jan. 19—WATT ANNIVERSARY LECTURE—"Marine Propulsion." With Lantern Illustrations. By S. W. BARNABY.

„ 26—"Irish Life and Song." With Musical Illustrations. By Miss MADELEINE O'CONNOR.

Feb. 2—"The Men of the French Revolution." With Lantern Illustrations. By HILAIRE BELLOC.

„ 9—"The Most Recent Excavations of Pompeii." With Lantern Illustrations. By CHARLES P. PERRY, F.R.G.S.

„ 16—"Wild Animals I have known." With Lantern Illustrations. By ERNEST THOMPSON SETON.

„ 23—"The Sun and its Influence on Terrestrial Phenomena." With Lantern Illustrations. By GEORGE CLARK, M.A.

In furtherance of a remit from a previous General Meeting, your Committee arranged for a course of Combe Trust Lectures, which were delivered in the Town Hall in the latter months of last year.

Although financially the results showed a loss, your Committee are satisfied that these popular lectures served their purpose, being attended in large numbers, and evidently appreciated by regular and interested audiences.

The deficit has been made good from the fund at the disposal of the Society for the purpose of Popular Science Lectures.

The Committee took steps to put into force the recommendations from the last General Meeting with regard to the removal of ladies' hats and the conduct of young persons attending the lectures, with, they hope, satisfactory results.

The thanks of the Society are due to Sheriff Lyell, of Paisley, for his Opening Lecture, and to Mr. S. W. Barnaby for his Watt Anniversary Lecture.

The lecture of the latter is now in the printer's hands, and will be issued in due course as one of the papers of the Society.

Your Committee trust that the high standard of Watt Lectures ever aimed at has been well maintained, and that they may still continue to provide a lasting memorial to James Watt in the town of his birth.

At a joint meeting of the Members of the Society and the Proprietors of the Greenock Library, held on 25th December, 1905, the Annual Report of the Museum and Hall Committee was submitted.

Messrs. A. Campbell Finlay and Robert A. Clapperton were appointed the Society's representatives.

The Office-bearers who retire at this time are Mr. John G. Kincaid, President ; the Rev. Charles Allan, Messrs. W. D. Boyd, W. A. Thom, A. R. Prentice, W. Hillhouse Carmichael, and the Secretary and Treasurer.

## M'Lean Museum and Lecture Hall.

### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT.

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society, held on 25th December, 1905.*

A joint meeting of the Proprietors of Greenock Library and the members of the Philosophical Society was held in the Watt Hall yesterday afternoon to receive the Annual Report of the Committee of Management of the Museum and Hall. In the unavoidable absence of Mr. Robert Hamilton (Chairman of the Museum Committee), Mr. Andrew Carmichael presided, and among those present were Mr. William M'Clure, Mr. Ryrie Orr, Mr. William Adamson, Mr. Robert A. Clapperton, Mr. Alex. Shearer, Mr. F. L. Wrede, Mr. James Slater, Mr. James D. Neill, Mr. George Dunlop (Secretary), and Mr. Thomas Thomson (Treasurer).

The Secretary read the Annual Report of the Museum Committee as follows :—

The Committee of Management have pleasure in submitting the Twenty eighth Annual Report on the Museum and Lecture Hall. There was no change in the Membership of the Committee from last year, and at the Annual Meeting held in January Mr. Robert Hamilton, being one of the representatives elected by the Library Proprietors, was appointed Chairman for the year.

As usual, a complete list of the objects placed in the Museum during the year will be found in Mr. Brunton's Report, and the Committee again desire to record their thanks to all who have contributed to the collections, either by gift or loan. Among the gifts, special mention should be made of a skull and horns of fallow deer procured from the Marquess of Bath by Sir Hugh Shaw Stewart of Ardgowan ; and a fine specimen of the tarpon fish from the Gulf of Mexico, presented by Dr. Robert Caird. Attention is again directed to the work of Mr. E. S. Russell, who is continuing the preparation of objects to form a Zoological "Type" Collection. He has prepared and mounted during the year the skull of a rabbit and a skate, showing the nervous system, also several other specimens. These and the other preparations in this collection should prove of much interest to students, and the Committee are specially indebted to Mr. Russell for the skill and care he has shown in carrying on this work. Among the purchases made during the year are a collection of 68 British birds' nests and eggs, and a number of medallions and friezes which belonged to the late Dr. Richmond.

The collection of objects on loan from the Board of Education was renewed in the month of February, the new collection containing examples of Oriental embroideries, Persian pottery, Indian metal-work, and electrotypes of armour. An interesting series of paintings was also obtained in place of those which were removed. The Committee have also to report that the Board of Education granted a loan for three months of their second historical circulating series of water-colour paintings, illustrating the growth and progress of the art. These pictures were exhibited on a framework erected in the main building of the Museum, and were visited by large numbers during the months of September and October.

The Committee regret that the National Gallery Board have recalled the valuable "Turner" picture, which formed one of the loan collection obtained from them last year, the reason given being that they had decided that it would be desirable to exhibit for a

time in London the five pictures forming Turner's last exhibit at the Royal Academy in 1850. So far, no picture has been obtained to replace this one. It may be of interest to note that the old Armada cannon, which stands to the right of the entrance to the Museum, was, at the request of the Directors of the Naval Ship and Fisheries Exhibition, held at Earl's Court, London, sent on loan to that Exhibition. It has now been returned.

The Curator, Mr. Brunton, was off duty for over two months in summer, suffering from enteric fever. During his absence Mr. Andrew A. Milligan was appointed to take charge of the Museum *ad interim*, and on Mr. Brunton's return Mr. Milligan was continued as his assistant, the Committee being of opinion that it was desirable to have a permanent assistant in the Museum. The new arrangement is giving satisfaction. One or two cases are at present in course of construction in the Museum workshop for the display of the collection of coins and the friezes and medallions referred to above. The Committee are glad to report that the amount received for rent of hall is considerably more than last year. They still think, however, that greater advantage might be taken of the facilities afforded by the hall for meetings and lectures, the scale of charges for the use of the hall being moderate.

The Members of Committee who retire by rotation at this time are : From the representatives of the Library—Mr. R. Hamilton and Mr. J. A. Brown ; and from the representatives of the Philosophical Society—Mr. A. Campbell Finlay and Mr. George Murray. They are all eligible for re-election.

The Secretary also submitted the Curator's report.

The Treasurer afterwards read the financial statement, which showed that the revenue for the past year amounted to £382 15s 7d, and the expenditure to £358 18s 4d, leaving a credit balance of £23 17s 3d, to which falls to be added the credit balance from last year (£46 14s), making the net balance at credit of the Museum £70 11s 3d.

The Chairman, in moving the adoption of the Secretary's report and Treasurer's statement of accounts, said it would be observed from the former that the work of the Museum had been going on quietly but none the less effectively, he thought, during the year. The exhibition of water-colour paintings was very successful, and it had been largely taken advantage of by the public. The accounts showed a credit balance of £23, but it must be remembered that a very small sum of money had been spent on specimens this year. The Museum Committee did not look for ways to spend money: they rather waited for an opportunity to spend money effectively, and while this year they had a credit balance of £23, next year that amount might be very usefully spent on specimens for the Museum. So that, taking one year with another, they might say their income was sufficient to keep the Museum going comfortably, and to provide for occasional purchases, but nothing of an extraordinary character. Their collection of birds had been brought up to such a state of completeness that comparatively little money required to be spent on that department. He thought, however, there were other departments of the Museum's work that would perhaps call for the expenditure of money.

Mr. William M'Clure seconded the motion, which was unanimously adopted.



## LIST OF MEMBERS FOR 1905-1906.

## I.—Honorary Members.

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
EDWARD CAIRD, M.A., LL.D., D.C.L.,	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	1890
F. P. PURVIS, WH. SC.,	1902

## II.—Ordinary Members.

ADAM, JOHN	29a Finnart Street.
ADAM, WILLIAM	12 Newark Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AGNEW, JAMES	1 Newark Street.
ALLAN, ALEXANDER, C.A.	39 Margaret Street
ALLAN, Rev. C., M.A.	93 Newton Street.
ALLAN, JOHN	17 Newton Street.
ALLAN, WILLIAM, M.D.	33 Union Street.
ALSTON, Miss H.	44 Margaret Street.
ALSTON, JOHN	44 Margaret Street.
ANDERSON, J. WALLACE	97 Brisbane Street.
ANDERSON, JAMES S.	61a Finnart Street.
ARCHIBALD, THOMAS P.	37 Fox Street.
AULD, WILLIAM	79 Newton Street.
AUSTIN, WILLIAM R.	69 Brisbane Street.
BAIRD, DAVID	Hunter Villa, Gourrock.
BARR, WILLIAM	47 Finnart Street.
BATHGATE, ALEXANDER	42 Robertson Street.
BEALE, Miss	56 Union Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, Miss F. E.	11 Kelly Street.
BLACKWOOD, CRAIG	Port-Glasgow.
BODEN, JOHN	68 South Street.

BORTHWICK, Mrs. T.	66 Newton Street.
BOYD, Miss SARAH G.	39 Union Street.
BOYD, W. D.	90 Finnart Street.
BROWN, J. A.	7 Ardgowan Street.
BROWN, J. D.	53 Union Street.
BROWN, M. M'C.	67 Eldon Street.
BROWN, W. A.	16 Eldon Street.
BRUCE, JAMES R.	2 Sandringham Terrace.
<del>BRADLEY, GEORGE</del>	<del>Raeburn, Victoria Rd., Gourrock.</del>
BUBB, HERBERT J.	12 Margaret Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMERON, JOHN	Finnart House.
CARMICHAEL, ANDREW	44 Ardgowan Street (W.).
CARMICHAEL, ANDREW	41 Union Street.
CARMICHAEL, DUNCAN	50 Brisbane Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	44 Ardgowan Street (W.)
CARMICHAEL, WM. H.	76 Finnart Street.
CHALMERS, JAMES	3 Finnart Road,
CLAPPERTON, ROBERT A.	53 Union Street.
CLARK, W. B.	42 Robertson Street.
CLERK, DUNCAN	25 Octavia Terrace.
COLQUHOUN, DUNCAN	38 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	3 Ardgowan Square.
CRAIG, JAMES	Lloyd's Office, Cross-shore Street
CRAWFORD, ANDREW	30 Ardgowan Street, (W.)
CRAWFORD, JAMES	30 Ardgowan Street (W.)
CRAWFORD, J. W.	41 Newark Street.
CRAWFORD, JOHN F.	30 Nelson Street.
CRAWFORD, THOMAS	61 Esplanade.
CUNNINGHAM, T. A.	87 Brisbane Street.
CURTIS, W. H.	38 Newark Street.
DEMPSTER, DUNCAN F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DICK, WM. JR.	62 Kelly Street.

DICKSON, W. A.	National Bank.
DOBBIE, W. L.	51 Ardgowan Street (W.)
DONALD, JAMES	24 Forsyth Street.
DOWNIE, ANDREW	41 Fox Street.
DRUMMOND, JOHN, Jr.	60 South Street.
DRUMMOND, NEIL	60 South Street.
DUNCAN, JOHN	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, B.L.	95 Newton Street.
DUNLOP, MALCOLM, M.A., LL.B.	95 Newton Street.
DUNLOP, JOHN, JR.	<del>95 Newton Street.</del>
DUFF, Miss	52 Eldon Street.
ELLIOTT, ROBERT	23 Ardgowan Street.
ERSKINE, D. M.	95 Finnart Street.
FINLAY, A. CAMPBELL	62 Esplanade.
FINDLAY, JOHN	20 Union Street.
FISHER, Mrs, R. F.	40 Forsyth Street.
FORBES, R. S.	31 Finnart Street.
FRAME, JAMES	2 Bentinck Street.
FULLARTON, HUGH	103 Finnart Street.
GLEN, JAMES	19 Octavia Terrace.
HAMILTON, ROBERT	27 Union Street.
HART, J. C.	<del>National Bank.</del>
HYNDMAN, J. G.	6 Fox Street.
HENDERSON, Mrs.	13 Kelly Street.
HENDERSON, W. F.	53 Forsyth Street.
HENRY, Miss,	61a Finnart Street.
HERON, ANDREW C.	5 Caddlehill Terrace.
HILL, JAMES H.	84 Union Street.
HOUSTON, ANDREW	11 Forsyth Street.
HOUSTON, R. C.	40 Newark Street.
HUNTER, JOHN P.	Union Bank, Greenock.
HUTCHESON, JAMES	30 Brisbane Street.
HUTCHISON, JOHN B.	27 Finnart Street.
HUTCHISON, JAMES H.	26 Newark Street.
INGLIS, Mrs. R.	44 Eldon Street.
JOHNSTON, JAMES	12 Patrick Street.
KERR, CHAS. F.	Rosemount.
KINCAID, JOHN G.	Westthorpe, Newark Street.
KIRKWOOD, WILLIAM	23 South Street.

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LAIRD, JAMES . . . . .	35 Newton Street.
LANG, JOHN . . . . .	Kilmacolm.
LAURIE, WILLIAM, . . . . .	15 Robertson Street.
LEITCH, ARTHUR O. . . . .	9 Ardgowan Square.
LEITCH, JOHN . . . . .	15 Ardgowan Square.
LOCHHEAD, ROBERT . . . . .	63 Union Street.
LOVE, JOHN W. . . . .	Royal Bank.
LOVE, JAMES A. . . . .	Royal Bank.
LYLE, ALEX. P. . . . .	25 Newark Street.
LYLE, J. L. . . . .	109 Finnart Street.
LYON, JAMES . . . . .	Sugar Exchange.
M'CALLUM, ALEXANDER . . . . .	Glenburn, Newark Street.
M'CLURE, WILLIAM, M.A. . . . .	24 Margaret Street.
MACCUTCHEON, H. . . . .	Town Clerk's Office.
MACDOUGALL, DUGALD . . . . .	3 Newark Street.
MACDOUGALL, G. R. . . . .	22 Fox Street.
MACDONALD, DONALD . . . . .	41 Margaret Street.
MACDONALD, GEORGE . . . . .	101 Finnart Street
MACDONALD, JAMES . . . . .	30 Esplanade.
M'EWAN, JAMES . . . . .	5 Caddlehill Terrace.
MACFARLAN, Miss ELLA . . . . .	75 Union Street.
MACFARLAN, ROBERT, C.A. . . . .	14 Eldon Street.
M'GREGOR, CHARLES . . . . .	26 Brisbane Street.
MACKINTOSH, HUGH . . . . .	National Bank.
MACINTOSH, NEIL . . . . .	32 Ardgowan Street.
MACINTYRE, JOHN D. . . . .	84 Union Street.
MACKAY, EDWARD, M.B., C.M. . . . .	10 Ardgowan Square.
M'KELLAR, A. B. . . . .	MacSymon's, Argyle Street.
MACKELLAR, PETER . . . . .	Parklea, 45 Finnart Street.
M'KINNON, JOHN . . . . .	2 Lyle Street.
M'KIRDY, ROBERT . . . . .	78 Union Street.
M'LEAN, HUGH . . . . .	33 Margaret Street.
MACLEAN, ALEX. S. . . . .	31 Bank Street.
MACLEAN, JOHN . . . . .	15 Robertson Street.
MACLEAN, JAMES A. . . . .	3 Octavia Terrace.
MACLEOD, ANGUS . . . . .	25 Regent Street.
MACMILLAN, DAVID . . . . .	14 Kelly Street.
M'NEIL, JAMES . . . . .	18 Bentinck Street.
MACONIE, PETER . . . . .	40 Mearns Street.

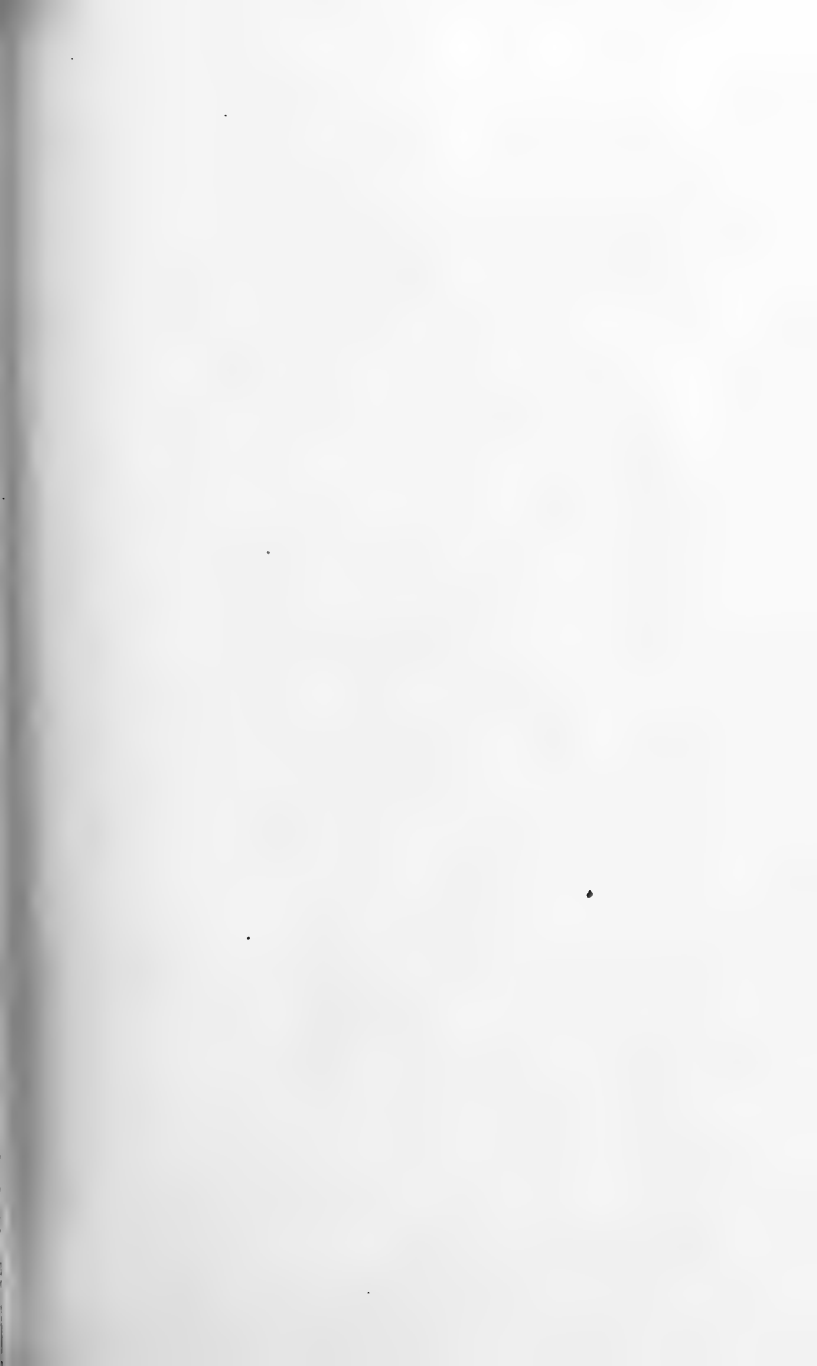
MACPHERSON, DAVID S.	65 Finnart Street.
MACPHERSON, ROBERT	56 Forsyth Street.
M'QUISTAN, R. M.	81 Brisbane Street.
MARSHALL, C. W., M.B., C.M.	8 Ardgowan Square.
MATHIESON, LINDSAY	23 Brisbane Street.
MELROSE, ALEX.	Lily Bank, Port-Glasgow.
MENZIES, ALEX.	21 Brisbane Street.
MEYER, VICTOR C.	56 Finnart Street.
MULLENS, A. J.	Ardgowan Distillery.
MILLER, THOMAS, Jun.	2 Fox Street.
MILLER, WILLIAM	9 Octavia Terrace.
MITCHELL, JOHN A.	72 Eldon Street.
MORIES, A. S.	157 Eldon Street.
MORRISON, D. A.	Lyle Road.
MORRISON, GEORGE	9 Fox Street.
MORTON, ROBERT	1 Wood Street.
MUIR, JAMES D.	Redlands, Robertson Street.
MUMME, CARL	30 Newark Street.
MURRAY, GEORGE	25 Bentinck Street.
NEILL, GEO. D.	39 Newark Street.
NEILL, JOHN, M.A.	1 Bedford Street.
NEILL, ROBERT GRIEVE, M.A.	1 Bedford Street.
NEILL, WALTER GRIEVE	1 Bedford Street.
NEILSON, MATTHEW	46 Brisbane Street.
NEISH, Sheriff	5 Newark Street.
NICOL, DUNCAN	2 Octavia Terrace.
NICOLL, JAMES	32 Margaret Street.
ORR, RYRIE, M.A.	35 Esplanade.
ORR, DANIEL	41 Dempster Street.
PATERSON, Mrs.	20 Eldon Street.
PATERSON, DAVID	30 Ardgowan Street.
PATERSON, JAMES	33 Finnart Street.
PATERSON, JAMES	Thornleigh, Campbell Street.
PATTERSON, T.L., F.I.C., F.C.S.	59 Finnart Street.
PATRICK, JOHN B.	36 Campbell Street
PAUL, W. B.	53 Newton Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, J. G.	54 Esplanade.
PRENTICE, THOMAS	45 Ardgowan Street (W.)
QUIN, WILLIAM A.	8 Margaret Street.

RAMSAY, ALEX.	15 South Street.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RATCLIFF, JOHN	69 Dempster Street.
RICHARDSON, ROBERT	27 Finnart Street.
ROBSON, JOHN, Jr.	62 Brisbane Street.
RODGER, A. S.	36 Forsyth Street.
RODGER, JOHN	36 Forsyth Street.
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	48 Brisbane Street.
ROSS, HUGH M.	63 Esplanade.
ROUGVIE, JAMES	21 Forsyth Street.
ROWAN, GEORGE	41 Ardgowan Street.
ROWAN, R. HOUSTON	50 Eldon Street.
ROWLEY, THOMAS	Eldon Place.
RUSSELL, JOSEPH	The Knowe.
RUSSELL, ANDREW	7 Bentinck Street
SCOBIE, LAWRENCE,	53 Brisbane Street.
SCOTT, JOSEPH D.	63 Finnart Street.
SCOTT, R. L.	Silwood, Margaret Street.
SCOTT, WALTER D.,	Feorline, Broomberry Dr., Gourrock.
SERVICE, Rev. W. J. NICOL, M.A.	45 Forsyth Street.
SERVICE, WILLIAM	56 Regent Street.
SHARP, WILLIAM	13 Caddlehill Terrace.
SHAW-STEWART, Lady ALICE	Ardgowan, Inverkip.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ARCHIBALD	93 Eldon Street.
SHEPHERD, WILLIAM	13 Brisbane Street.
SINCLAIR, THOS. ORD, C.A.	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S.	Hunter Villa, Gourrock.
SPEIRS, A. J.	4 Glen Street.
STARK, Mrs.	63 Union Street.
STEEL, JAMES S.	17 Ardgowan Street.
STEELE, HENRY M., C.A.	74 Finnart Street.
STEWART, JAMES K.	58 Esplanade.
STEWART, WM., M.D., C.M.	Benview, Barrhill Rd., Gourrock.
STEWART, ANDREW	14 Newark Street
STEWART, THOMAS O.	45 Union Street.
STEWART, THOMAS O., Jr.	45 Union Street.

STRUTHERS, Rev. J. P., M.A.	40 Eldon Street.
TANNOCK, QUINTIN, Jr.	8 Brisbane Street.
TAYLOR, J. G.	61 Union Street.
THOM, W. A.	42 Brisbane Street.
THOMSON, THOMAS	69 Newton Street.
THORBURN, JAS. G.	4 Newark Street.
THORNE, ROBERT	36 Newark Street.
TIERNEY, EDWARD	79 Finnart Street.
TURNBULL, ALEXR. J.	60 Campbell Street.
TURNER, Miss	32 Esplanade.
WALKER, HUGH W.	Bellevue, Johnstone Street.
WALKER, JOHN	59 Newton Street.
WALKER, WM., L.R.C.P.S.E.	14 Union Street.
WALLACE, DUNCAN M.	65 Union Street.
WARDLE, JAMES	2 Esplanade.
WATSON, W. S.	58 Brisbane Street.
WEATHERHEAD, GEORGE	Commercial Bank.
WILLIAMSON, ALEXANDER	67 Esplanade.
WILLIAMSON, J.	40 Robertson Street.
WILSON, Dr. J. ERIC	54 Brisbane Street.
WILSON, Mrs. JAMES	Thornhill, Ardgowan Street
WINGATE, JOHN S.	72 Eldon Street.
WREDE, FRED. LEAR.	27 Bentinck Street.
WRIGHT, ALFRED E.	21 Bentinck Street.
WRIGHT, Miss J. L.	29 Kelly Street.
YOUNGER, ROBERT L.	22 Fox Street.
YOUNG, JOHN A.	24 Finnart Street.
YOUNG, Rev. HOMER	St. John's Manse, Gourrock.







PRESENTED

22 SEP 1938



22 SEP 1938



FORTY-SIXTH

# ANNUAL REPORT

OF THE

**Greenock**

**Philosophical Society**

---

SESSION 1906-1907.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1907.



FORTY-SIXTH

ANNUAL REPORT

OF THE

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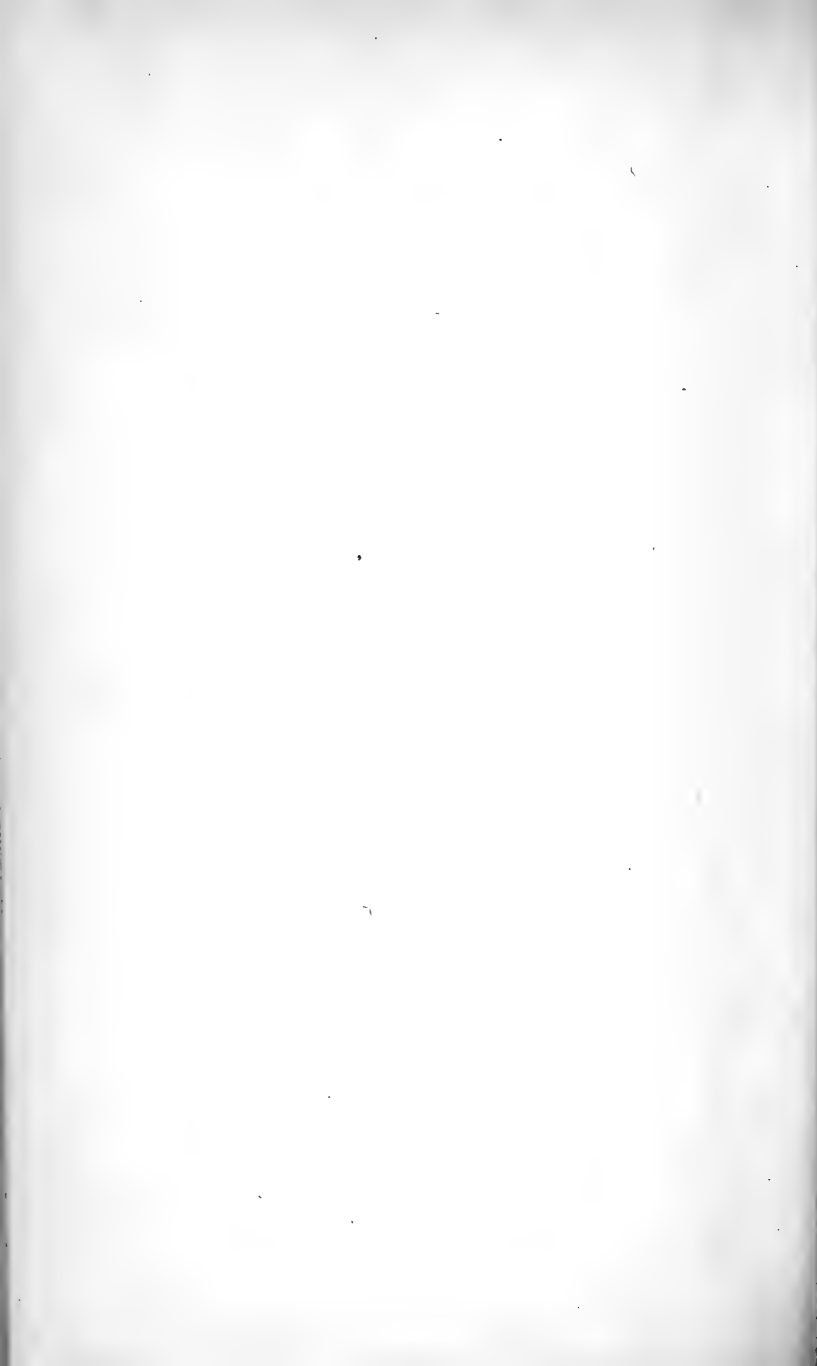
SESSION 1906-1907.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1907.



# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1907-1908.

President—JOHN G. KINCAID.

Vice-Presidents— $\left\{ \begin{array}{l} \text{REV. CHARLES ALLAN, M.A.} \\ \text{FRED LEAR WREDE.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON, 22 Margaret Street.

Secretary—W. D. BOYD, 2 Church Place.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

VICTOR C. MEYER.

T. L. PATTERSON, F.I.C., F.C.S.

Dr. W. S. COOK.

JOHN S. WINGATE.

JAMES A. MACLEAN.

Dr. Wm. ALLAN.

THOMAS ROWLEY.

W. A. DICKSON.

T. O. STEWART.

D. S. MACPHERSON.

JAMES CRAWFORD.

JAMES CRAIG.

LAWRENCE SCOBIE.

J. ROESON, Jun.

JOHN W. LOVE.

\*THOMAS THOMSON.

\*GEORGE DUNLOP, B.L.

\*A. CAMPBELL FINLAY.

\*R. A. CLAPPERTON.

\*JOHN LANG.

\*ALEXANDER SHEARER.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

THOMAS THOMSON, *Treasurer.*

GEORGE DUNLOP, B.L., *Secretary.*

A. CAMPBELL FINLAY.

R. A. CLAPPERTON.

JOHN LANG.

ALEX. SHEARER.

*(Elected by Proprietors of Library.)*

JAMES D. NEILL, *Chairman.*

T. D. M'MURRICH.

ROBERT HAMILTON.

JOHN A. BROWN.

MALCOLM M'C. BROWN.

A. J. BLACK.

*Curator of Museum—CHARLES BRUNTON.*

*Assistant Curator of Museum—A. MILLIGAN.*





# Forty-Sixth Annual Report.

SESSION 1906-1907.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the McLean Museum, on Friday Evening, 1st March, 1907—John G. Kincaid, Esq., President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£108 16 10
Tickets Sold—256 Members', at 10/6, . . . . .	£134 8 0
276 Ladies' and Youths', at 3/6, . . . . .	48 6 0
	<hr/>
	£182 14 0
Bank Interest on Deposit Receipts, . . . . .	4 1 6
	<hr/>
	186 15 6
	<hr/>
	£295 12 4

### EXPENDITURE.

Fees to Lecturers, . . . . .	£123 3 6
Expenses in connection with Lectures, . . . . .	10 14 0
Museum Committee—Lighting and Heating Hall, . . . . .	10 0 0
Printing, Advertising, and Stationery, . . . . .	30 9 0
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	8 16 0
Secretary's and Treasurer's Outlays, . . . . .	4 0 6
	<hr/>
	£187 4 0
Balance on Deposit Receipt with National Bank, . . . . .	108 8 4
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	£295 12 4

## SCIENCE LECTURE FUND.

Balance at close of previous year, . . . . .	£32 5 10
Add Interest for Year, . . . . .	0 19 3
	<hr/>
Balance now in Provident Bank, . . . . .	£33 5 1

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 27th February, 1907.—Examined, certified correct, and securities exhibited.

D. S. MACPIERSON, }  
GEORGE DUNLOP, } *Auditors.*

## Statement of Proceedings.

The Committee have pleasure in submitting the Forty-Sixth Annual Report of the Society. The Membership of the Society is well maintained, the number of Ordinary Members being 256, and the number of tickets issued to Members for use in their households 276. These numbers could have been increased had the accommodation of the Society's hall permitted, several applications for Membership having been refused. The Weekly Meetings of the Society were all well attended and the general interest taken in the Lectures testify to their popularity and their need in the Social life of the town.

The Committee regret that the programme of lectures as originally announced could not be carried out. Mr. Walter Kirton, still detained in China, had to abandon his intention of lecturing, but a substitute was found in Mr. Jaakoff Prelooker, who lectured on "Old and New Russia." Dr. Robert Caird, who had consented to deliver the Watt Anniversary Lecture on 18th January was compelled by reason of his health to go abroad for a time, and asked the Committee to postpone the delivery of his lecture to a later period. On his return he found himself still unable to undertake the duty and begged to be relieved for this year. This, your Committee, while regretting the cause, had reluctantly to do. They were fortunate however in securing as lecturer for the date left vacant by Dr. Caird's absence, Mr. William Auld, an old and valued Member of the Society, who lectured with much acceptance on "Greenock and its Early Social Environment." The Committee are deeply grateful to Mr. Auld for, at short notice, filling the breach and the Society is indebted to him for a most interesting and valuable contribution to the history of our town.

1906.

Nov. 2.—OPENING LECTURE—"The Uses of Poetry." By W. MACNEIL DIXON, Litt.D., M.A., Professor of English Literature in Glasgow University.

Nov. 9.—“*Travel and Politics in Morocco.*” With Lantern Illustrations.  
By S. L. BENSUSAN, F.Z.S., R.A.S.

„ 16.—“*Old and New Russia.*” With Lantern Illustrations. By  
JAAKOFF PRELOOKER.

„ 23.—DRAMATIC RECITAL. By ERNEST DENNY.

(Thursday).

Nov. 29.—“*The Painter.*” By Professor HUBERT VON HERKOMER.  
C.V.O., R.A.

Dec. 7.—“*Prehistoric Peeps.*” With Lantern Illustrations. By FRANK  
STEVENS.

„ 14.—“*Earthquakes and Upheavals.*” With Lantern Illustrations,  
By CECIL CARUS-WILSON, F.R.S., Edin.

„ 31.—BUSINESS MEETING. Annual Report by Museum Committee  
and Election of Representatives.

1907.

Jan. 11.—“*The Earth's Beginning.*” With Lantern Illustrations. By  
Sir ROBERT S. BALL, LL.D., D.Sc., F.R.S.

„ 18.—“*Greenock and its Early Social Environment.*” By WILLIAM  
AULD.

„ 25.—“*Antarctic Bird-Life.*” With Lantern Illustrations. By  
WILLIAM EAGLE CLARKE, F.R.S.E., F.L.S., Keeper of the  
Natural History Department, Royal Scottish Museum.

Feb. 1.—“*Life among Cannibals.*” With Lantern Illustrations. By  
the Rev. W. H. ABBOT, M.A.

„ 8.—“*Over the Pyrenees to Andorra.*” With Lantern Illustrations.  
By the Rev. A. N. COOPER (“The Walking Parson.”)

„ 15.—“*Old English Ballads.*” With Musical Illustrations. By  
Miss MARY WILSON, L.R.A.M.

„ 22.—“*What I saw in South America.*” With Lantern Illustrations.  
By Miss JESSIE ACKERMAN, F.R.S.G.S.

Mar. 1.—ANNUAL MEETING OF THE SOCIETY.

A gratifying feature of the Society's work is the increased requests each year, particularly from abroad, for copies of the Society's Watt Lectures, the demand for the copies of the 1906 lecture being greater than the number available. This would seem to indicate that the object of the Watt Anniversary Lecture in celebrating the birth of James Watt and at the same time furthering the pursuit of Science, has been fully justified.

At a Meeting of the Society held on 31st December, Messrs. John Lang and Alexander Shearer were re-elected the Society's representatives on the Museum Committee.

The Office-bearers who retire at this time are Mr. Rylie Orr, M.A., Vice-president, and Messrs. John B. Hutchison, H. M. Steele, D. A. Morrison, Fred. Lear Wrede, Dr. C. W. Marshall, and D. M. Wallace.

The Secretary has also intimated his intention of retiring at this time, and a new Secretary falls to be appointed.

## M'Lean Museum and Lecture Hall.

### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT.

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society, held on 24th December, 1906.*

The following is the Twenty-ninth Annual Report on the Museum and Lecture Hall, which the Committee of Management beg to submit.

The only change in the membership of the Committee for 1906 was the appointment of Mr. Robert A. Clapperton from the Philosophical Society in place of Mr. George Murray who retired having served on the Committee for the past nine years.

Mr. Alexander Shearer was elected Chairman of the Committee being one of the Representatives of the Philosophical Society from whom the Chairman for the year fell to be appointed. The Committee met eight times during the year.

Several additions have been made to the collections in the Museum, a complete list of which will be found in the Curator's Report; and the Committee again thank all who have contributed to the Museum by gift or loan. Among the gifts special mention may be made of a valuable and interesting collection of Japanese curios, kindly presented to the Museum by Mr. George R.

Macdougall of New York. Mr. Macdougall was the first Secretary of the Committee of Management, and though not now resident in Greenock he continues to take a deep interest in the affairs of the Institution. An interesting addition may be noted in connection with the collection of birds, namely :—Twenty-one specimens of the *Sterna* of British Birds, presented by Messrs. M'Culloch & Sons, Naturalists, Glasgow. These have been set up by the Curator, and should prove of value to students. The collection of Nests and Eggs of British Birds continues to be added to by the purchase of additional specimens from time to time as they are available. Special thanks are due to Mr. Russell for his continued work on the Zoological Type Collection, several interesting specimens having been prepared by him during the year. Some valuable publications have been received from the Egypt Exploration Fund, to which Society the Committee subscribe a small sum annually. The principal addition to the Paintings is a portrait by Fleming of the late Mr. John Gilchrist, Accountant in the Glasgow Union Banking Company, Greenock, who died in 1850, presented by his daughter.

The stone floor of the vestibule having become much worn, the Committee had the flags removed and the floor laid with large Terra Cotta tiles, at a cost of about £18. This material was adopted after careful inquiry and consideration, and the tiles are not only most durable but are in keeping with the general style of the building. The walls and ceiling of the vestibule and the staircase have also been repainted.

The Members of Committee who retire by rotation at this time are :—From the Representatives of the Library, Messrs. Andrew Carmichael and Malcolm M'C. Brown ; and from the Representatives of the Philosophical Society, Messrs. John Lang and Alexander Shearer. They are all eligible for re-election.

From the Abstract of the Treasurer's Accounts, which is appended it will be seen that the revenue, consisting of Grants

from the M'Lean Trustees, Rents from Letting of Hall, and Bank Interest; exceeded the expenditure by £10 0s. 11d. Adding to this the credit balance brought forward from last year's Accounts—£70 11s 3d.—the total amount at the credit of the Committee is £80 12s 2d. The Committee think it desirable that there should always be a small balance in hand to enable them to take advantage of any chance which presents itself of acquiring special objects for the Museum or Pictures for the collection in the Lecture Hall.

## McLEAN MUSEUM.

## ABSTRACT OF ACCOUNTS,

FOR YEAR ENDED 6TH OCTOBER, 1906.

## REVENUE.

Grant from M'Lean Trustees, . . . . .	£340 0 0
Rent of Hall, . . . . .	64 0 10
Interest, . . . . .	2 5 0
	<hr/>
	£406 5 10

## EXPENDITURE.

Salaries and Wages, . . . . .	£178 0 0
Cleaning, . . . . .	9 18 0
Furniture and Fittings, . . . . .	23 11 3
Repairs and Improvements, . . . . .	30 10 6
Repairs to Roof, . . . . .	3 19 0
Insurance and Feu-duty, . . . . .	£29 18 4
Less Insurance Repaid, . . . . .	6 4 0
	<hr/>
	23 14 4
Specimens, . . . . .	36 16 9
Taxes and Assessments, . . . . .	29 17 9
Coal, Gas, and Electricity, . . . . .	38 19 7
Sundries, . . . . .	20 17 9
	<hr/>
	396 4 11
Leaving a Credit Balance of, . . . . .	10 0 11
To which has to be added Credit Balance from last year, . . . . .	70 11 3
	<hr/>
Net Balance <i>at Credit</i> of Committee, . . . . .	<u>£80 12 2</u>

THOMAS THOMSON, *Hon. Treas.*

GREENOCK, 20th October, 1906.—Audited and found correct.

(Signed) NICOLL &amp; CARMICHAEL.



## LIST OF MEMBERS FOR 1906-1907.

### I.—Honorary Members.

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
EDWARD CAIRD, M.A., LL.D., D.C.L.,	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	1890
F. P. PURVIS, WH. SC.,	1902

### II.—Ordinary Members.

ADAM, JOHN	29a Finnart Street.
ADAM, WILLIAM	12 Newark Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AGNEW, JAMES	1 Newark Street.
ALLAN, ALEXANDER, C.A.	39 Margaret Street.
ALLAN, Rev. C., M.A.	93 Newton Street.
ALLAN, JOHN	17 Newton Street.
ALLAN, WILLIAM, M.D.	33 Union Street.
ANDERSON, J. WALLACE	97 Brisbane Street.
ANDERSON, JAMES A.	61a Finnart Street.
ARCHIBALD, THOMAS P.	37 Fox Street.
AULD, WILLIAM	79 Newton Street.
AUSTIN, WILLIAM R.	61 Brisbane Street.
BAIRD, DAVID	Hunter Villa, Gourrock.
BARR, WILLIAM	47 Finnart Street.
BATHGATE, ALEXANDER	42 Robertson Street.
BEALE, Miss	56 Union Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, Miss F. E.	11 Kelly Street.
BLACK, THOMAS	33 Ardgowan Street.
BLACKWOOD, CRAIG	Craigiehaugh, Port-Glasgow.

BORTHWICK, Mrs. T.	66 Newton Street.
BOYD, Miss SARAH G.	39 Union Street.
BOYD, W. D.	87 South Street.
BROWN, J. D.	61 Finnart Street.
BROWN, W. A.	16 Eldon Street.
BUBB, HERBERT J.	12 Margaret Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMERON, JOHN	Finnart House.
CARMICHAEL, ANDREW	44 Ardgowan Street (W.).
CARMICHAEL, ANDREW	41 Union Street.
CARMICHAEL, DUNCAN	50 Brisbane Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	44 Ardgowan Street (W.)
CARMICHAEL, WM. H.	76 Finnart Street.
CHALMERS, JAMES	5 Finnart Road.
CLAPPERTON, ROBERT A.	61 Union Street.
CLARK, W. B.	42 Robertson Street.
CLERK, DUNCAN	25 Octavia Terrace.
COLQUHOUN, DUNCAN	42 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	2 Ardgowan Square.
COOPER, Mrs.	17 Ardgowan Square.
CRAIG, JAMES	Lloyd's Office, Cross-shore Street.
CRAWFORD, ANDREW	30 Ardgowan Street (W.)
CRAWFORD, JAMES	30 Ardgowan Street (W.)
CRAWFORD, J. W.	41 Newark Street.
CRAWFORD, JOHN F.	20 Nelson Street.
CRAWFORD, THOMAS	61 Esplanade.
CUNNINGHAM, T. A.	87 Brisbane Street.
CURTIS, W. H.	38 Newark Street.
CUTHBERT, GILBERT,	29 Brisbane Street.
DEMPSTER, DUNCAN F.	7 Octavia Terrace.
DENNISTON, J. S.	19 Patrick Street.
DICKSON, W. A.	National Bank.
DOBIE, W. L.	50 Esplanade.
DONALD, JAMES	24 Forsyth Street.

DOWNIE, ANDREW . . . .	41 Fox Street.
DRUMMOND, JOHN, JR. . . .	60 South Street.
DRUMMOND, NEIL . . . .	60 South Street.
DUNCAN, JOHN . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, B.L. . . .	95 Newton Street.
DUNLOP, MALCOM, M.A., I.L.B. . .	95 Newton Street.
DUNLOP, JOHN . . . .	23 Union Street.
DUFF, Miss . . . .	52 Eldon Street.
ELLIOTT, ROBERT . . . .	61 Finnart Street.
ERSKINE, D. M. . . .	22 Margaret Street.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FINDLAY, JOHN . . . .	20 Union Street.
FISHER, Mrs, R. F. . . .	42 Newark Street.
FLETCHER, D. . . .	41 Robertson Street.
FRAME, JAMES . . . .	14 Eldon Street.
FULLARTON, HUGH . . . .	103 Finnart Street.
GALLOWAY, J. W. . . .	17 Ardgowan Square.
GATHERER, JAMES . . . .	97 Eldon Street.
GLEN, JAMES . . . .	19 Octavia Terrace.
GRIEVE, W. R. . . .	49 Margaret Street.
HAMILTON, ROBERT . . . .	27 Union Street.
HARVEY, JAMES, L. . . .	11 Margaret Street.
HYNDMAN, J. G. . . .	6 Fox Street.
HENDERSON, Mrs. . . .	13 Kelly Street.
HENDERSON, W. F. . . .	57 Forsyth Street.
HENDRY, WILLIAM S. . . .	5 Castle Gardens, Gourock.
HENRY, Miss, . . . .	61a Finnart Street.
HILL, ROBERT, . . . .	75 Union Street.
HOUSTON, ANDREW . . . .	17 Forsyth Street.
HOUSTON, R. C. . . .	40 Newark Street.
HUNTER, JOHN P. . . .	Union Bank, Greenock.
HUTCHISON, JAMES . . . .	30 Brisbane Street.
HUTCHISON, JOHN B. . . .	27 Finnart Street.
HUTCHISON, JAMES H. . . .	26 Newark Street.
INGLIS, Mrs. R. . . .	44 Eldon Street.
JERDAN, Mrs. . . .	68 Union Street.
JOHNSTON, JAMES . . . .	12 Patrick Street.
KERR, CHAS. F. . . .	Rosemount, Bentinck Street.
KINCAID, JOHN G. . . .	Westthorpe, Newark Street.

KIRKWOOD, WILLIAM	62 Forsyth Street.
LAIRD, JAMES	35 Newton Street.
LANG, JOHN	Station Hotel, Kilmacolm.
LANG, Mrs. JOHN	Eldon Place.
LAURIE, WILLIAM,	15 Robertson Street.
LEITCH, ARTHUR O.	9 Ardgowan Square.
LEITCH, JOHN	15 Ardgowan Square.
LOCHHEAD, ROBERT	63 Union Street.
LOVE, JOHN W.	Royal Bank.
LOVE, JAMES A.	Royal Bank.
LYLE, J. L.	109 Finnart Street.
LYON, JAMES	Sugar Exchange.
MACARA, GRIERSON	37 Finnart Street.
M'AUSLAN, D.	62 Campbell Street.
M'CALLUM, ALEXANDER	Glenburn, Newark Street.
M'CLURE, WILLIAM, M.A.	24 Margaret Street.
MACCUTCHEON, H.	Town Clerk's Office.
MACDOUGALL, DUGALD	3 Newark Street.
MACDOUGALL, G. R.	22 Fox Street.
MACDONALD, DONALD	41 Margaret Street.
MACDONALD, GEORGE	101 Finnart Street.
MACDONALD, JAMES	30 Esplanade.
M'EWAN, JAMES	5 Caddlehill Terrace.
MACFARLAN, Miss ELLA	75 Union Street.
MACFARLAN, ROBERT, C.A.	72 Forsyth Street.
M'GREGOR, CHARLES	48 Brisbane Street.
M'GUGAN, D.	5 Chapel Street.
MACKINTOSH, HUGH	National Bank.
MACINTOSH, NEIL	39 Ardgowan Street.
MACINTYRE, JOHN D.	84 Union Street.
MACKAY, EDWARD, M.B., C.M.	10 Ardgowan Square.
M'KELLAR, A. B.	MacSymon's, Argyle Street.
M'KINNON, JOHN	2 Lyle Street.
M'KIRDY, ROBERT	78 Union Street.
M'LEAN, HUGH	35 Margaret Street.
MACLEAN, ALEX. S.	33 Bank Street.
MACLEAN, JOHN	63 Forsyth Street.
MACLEAN, JAMES A.	3 Octavia Terrace.
MACLEOD, ANGUS	25 Regent Street.

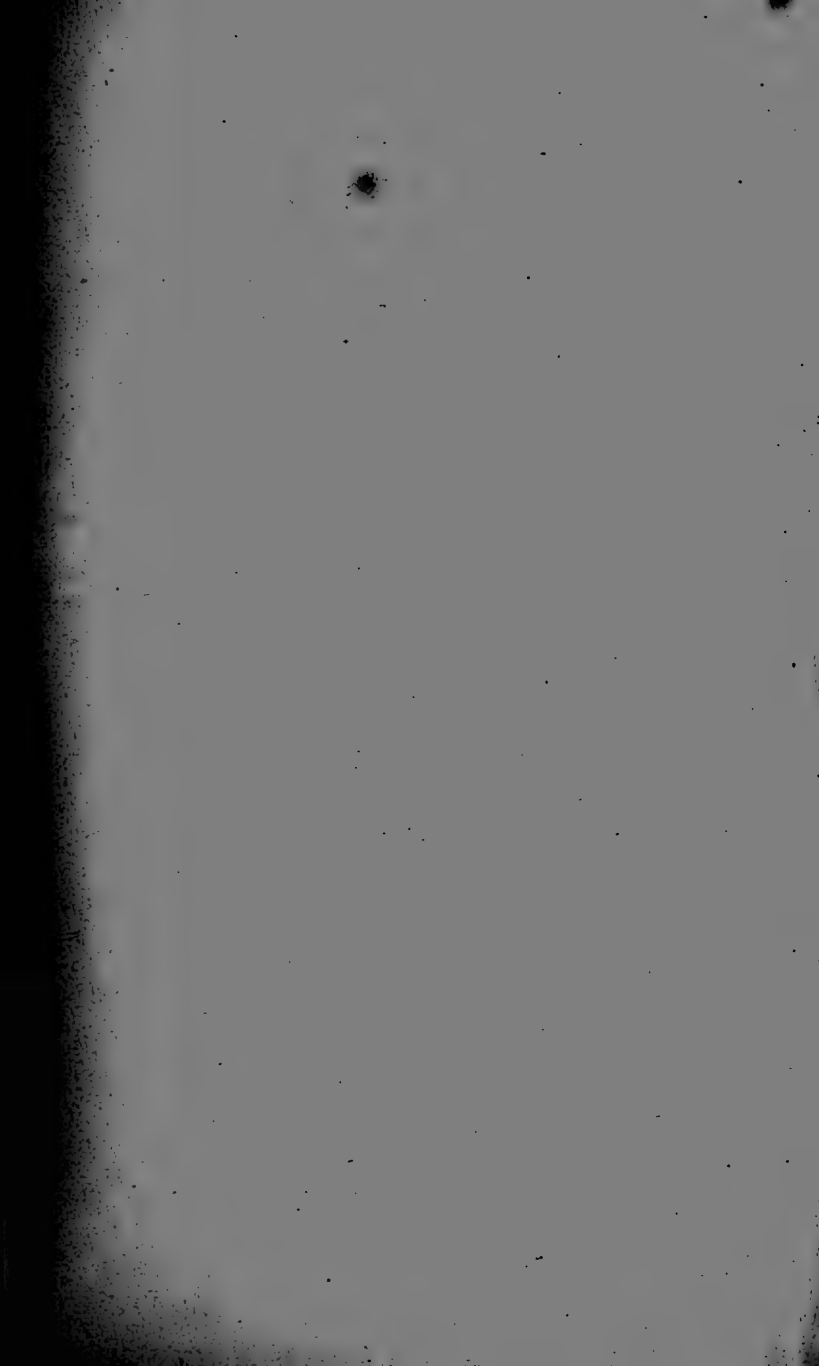
MACMILLAN, DAVID	14 Kelly Street.
M'NEIL, JAMES	9 Bentinck Street.
MACONIE, PETER	40 Mearns Street.
MACPHERSON, DAVID S.	65 Finnart Street.
MACPHERSON, ROBERT	76 Forsyth Street.
M'QUISTAN, R. M.	40 Campbell Street.
MARSHALL, C. W., M.B., C.M.	8 Ardgowan Square.
MARSHALL, Mrs.	8 Ardgowan Square.
MASSICKS, WILLIAM	67 Rue-end Street.
MATHIESON, LINDSAY	23 Brisbane Street.
MELROSE, ALEX.	Lily Bank, Port-Glasgow.
MENZIES, ALEX.	21 Brisbane Street.
MEYER, VICTOR C.	56 Finnart Street.
MILLAR, J.	17 Kelly Street.
MILLER, NEIL K.	2 Fox Street.
MILLER, THOMAS, Jun.	2 Fox Street.
MILLAR, WILLIAM	9 Octavia Terrace.
MITCHELL, M.	31 Robertson Street.
MORIES, A. S.	157 Eldon Street.
MORRISON, D. A.	Lyle Road.
MORRISON, D. D.	7 Fox Street.
MORRISON, GEORGE	7 Fox Street.
MORTON, ROBERT	1 Wood Street.
MUIR, JAMES D.	23 Union Street.
MUIR, Miss	36 Margaret Street.
MULLENS, A. J.	37 Robertson Street.
MUMME, CARL	30 Newark Street.
MURRAY, GEORGE	2 Argyle Street.
NEILL, GEO. D.	39 Newark Street.
NEILL, JOHN, M.A.	1 Bedford Street.
NEILL, J. D.	55 Esplanade.
NEILL, ROBERT GRIEVE, M.A.	1 Bedford Street.
NEILL, WALTER GRIEVE	1 Bedford Street.
NEILSON, MATTHEW	16 Forsyth Street.
NEISH, Sheriff	5 Newark Street.
NICOL, DUNCAN	2 Octavia Terrace.
NICOL, GAVIN	25 Brisbane Street.
NICOLL, JAMES	32 Margaret Street.
ORR, RYRIE, M.A.	35 Esplanade.

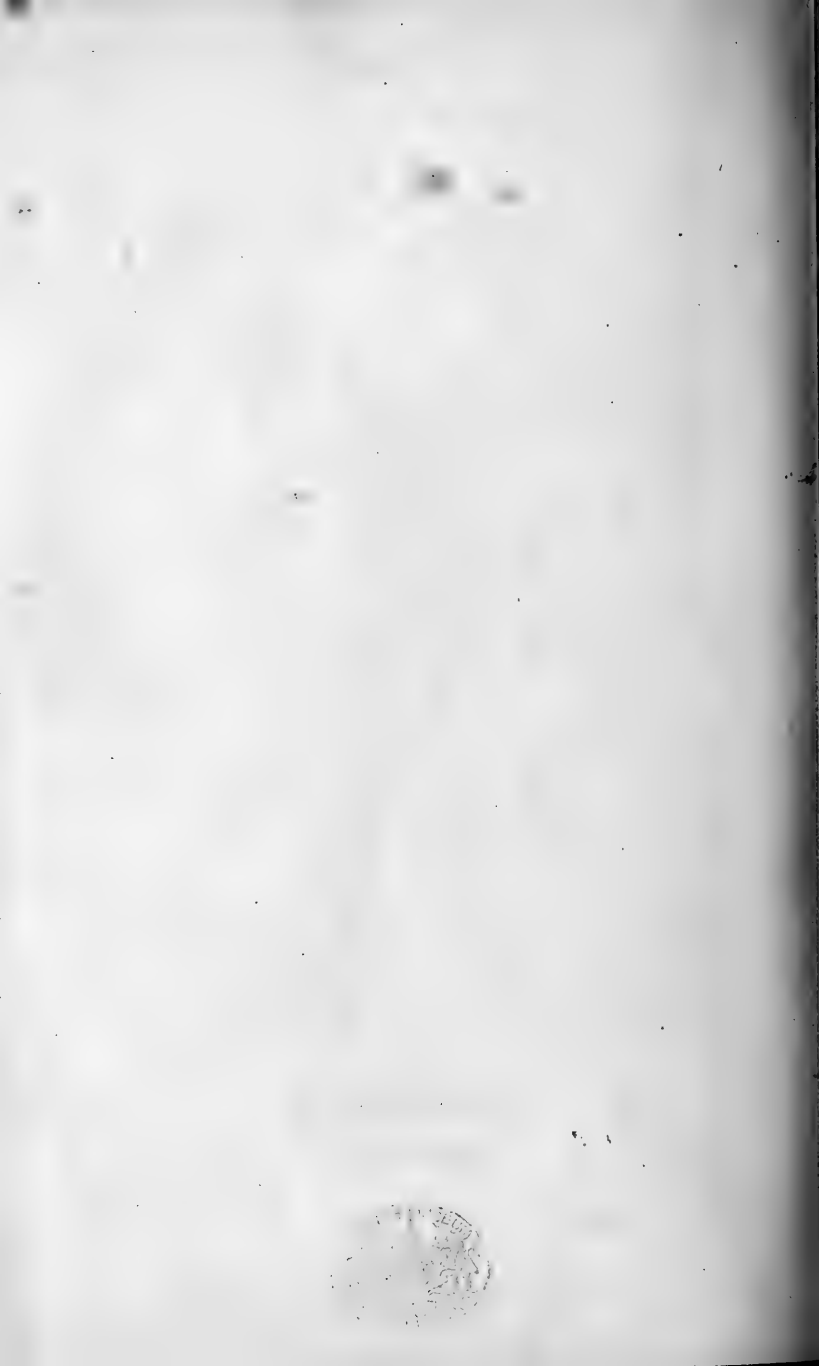
ORR, DANIEL . . . . .	41 Dempster Street.
PATERSON, Mrs. . . . .	20 Eldon Street.
PATERSON, DAVID . . . . .	4 Bedford Street.
PATTERSON, D. C. . . . .	12 Union Street.
PATERSON, JAMES . . . . .	33 Finnart Street.
PATERSON, JAMES . . . . .	58 Campbell Street.
PATTERSON, T.I.L., F.I.C., F.C.S.,	59 Finnart Street.
PATON, J. FRASER . . . . .	1 Rosneath Street.
PATRICK, JOHN B. . . . .	36 Campbell Street
PAUL, W. B. . . . .	53 Newton Street.
PRENTICE, A. R. . . . .	28 Newark Street.
PRENTICE, J. G. . . . .	54 Esplanade.
PRENTICE, THOMAS . . . . .	45 Ardgowan Street (W.)
QUIN, WILLIAM A. . . . .	8 Margaret Street.
RAMSAY, ALEX. . . . .	15 South Street.
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . . .	21 Octavia Terrace.
RICHARDSON, ROBERT . . . . .	27 Finnart Street.
ROBERTSON, JAMES A. . . . .	65 Forsyth Street.
ROBSON, JOHN, Jr. . . . .	62 Brisbane Street.
RODGER, A. S. . . . .	42 Forsyth Street.
RODGER, JOHN . . . . .	42 Forsyth Street.
RORISON, THOMAS D. . . . .	24 Roxburgh Street.
ROSS, HEW RAMSAY . . . . .	48 Brisbane Street.
ROSS, HUGH M. . . . .	63 Esplanade.
ROUGVIE, JAMES . . . . .	21 Forsyth Street.
ROWAN, GEORGE . . . . .	41 Ardgowan Street.
ROWAN, R. HOUSTON . . . . .	50 Eldon Street.
ROWLEY, THOMAS . . . . .	Eldon Place.
RUSSELL, JOSEPH . . . . .	The Knowe.
SCOBIE, LAWRENCE . . . . .	53 Brisbane Street.
SCOTT, JOSEPH D. . . . .	63 Finnart Street.
SCOTT, R. L. . . . .	Silwood, 33 Margaret Street.
SCOTT, WALTER D., . . . .	Feorline, Broomberry Drive, Gourrock.
SERVICE, Rev. W. J. NICHOL, B.D.	45 Forsyth Street.
SERVICE, WILLIAM . . . . .	56 Regent Street.
SHARP, ROBERT . . . . .	Octavia Street, Port-Glasgow.
SHARP, WILLIAM . . . . .	13 Caddlehill Terrace.
SHAW-STEWART, Lady ALICE .	Ardgowan, Inverkip.

SHEARER, ALEX.	. . .	2 Glen Street.
SHEARER, ARCHIBALD	. . .	93 Eldon Street.
SINCLAIR, THOS. ORD, C.A.	. . .	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S.	. . .	Hunter Villa, Gourrock.
STEEL, JAMES S.	. . .	23A Forsyth Street.
STEELE, HENRY M., C.A.	. . .	74 Finnart Street.
STEWART, A.	. . .	18 Robertson Street.
STEWART, JAMES K.	. . .	58 Esplanade.
STEWART, J.	. . .	18 Murdieston Street.
STEWART, ANDREW	. . .	14 Newark Street
STEWART, THOMAS O.	. . .	45 Union Street.
SWAN, JOHN A.	. . .	1 Johnstone Street.
TAITT, R. G.	. . .	28 Ardgowan Street.
TANNOCK, QUINTIN, Jr.	. . .	8 Brisbane Street.
TAYLOR, J. G.	. . .	33 Esplanade.
THOM, W. A.	. . .	20 Ardgowan Street.
THOMSON, THOMAS	. . .	69 Newton Street.
THORBURN, JAS. G.	. . .	4 Newark Street.
THORNE, ROBERT	. . .	36 Newark Street.
TIERNEY, EDWARD J.	. . .	75 Brisbane Street.
TURNBULL, ALEXR. J.	. . .	60 Campbell Street.
TURNER, Mrs.	. . .	9 Fox Street.
WALKER, HUGH W.	. . .	Bellevue, Johnstone Street.
WALKER, JOHN	. . .	59 Newton Street.
WALKER, WM., L.R.C.P.S.E.	. . .	14 Union Street.
WALLACE, DUNCAN M.	. . .	65 Union Street.
WARDLE, JAMES	. . .	2 Esplanade.
WATSON, W. S.	. . .	58 Brisbane Street.
WEIR, JOHN	. . .	64 Kelly Street.
WILLIAMSON, ALEXANDER	. . .	67 Esplanade.
WILLIAMSON, J.	. . .	40 Robertson Street.
WILSON, Dr. J. ERIC	. . .	54 Brisbane Street.
WILSON, Mrs. JAMES	. . .	Thornhill, 37 Ardgowan Street.
WINGATE, JOHN S.	. . .	72 Eldon Street.
WREDE, FRED. LEAR.	. . .	27 Bentinck Street.
WRIGHT, ALFRED E.	. . .	21 Bentinck Street.
WRIGHT, Miss J. L.	. . .	29 Kelly Street.
YOUNGER, ROBERT L.	. . .	22 Fox Street.
YOUNG, JOHN A.	. . .	24 Finnart Street.













FORTY-SEVENTH

ANNUAL REPORT

OF THE

Greenock

Philosophical Society

---

Session 1907-1908.

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GREENOCK :

"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,

1908.



# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1908-1909.

President—REV. CHARLES ALLAN, M.A.

Vice-Presidents— $\left\{ \begin{array}{l} \text{FRED LEAR WREDE.} \\ \text{VICTOR C. MEYER.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON, 22 Margaret Street.

Secretary—W. D. BOYD, 2 Church Place.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

Dr. WM. ALLAN.

THOMAS ROWLEY.

W. A. DICKSON.

T. O. STEWART.

D. S. MACPHERSON.

JAMES CRAWFORD.

JAMES CRAIG.

LAWRENCE SCOBIE.

W. F. HENDERSON.

JOHN W. LOVE.

WILLIAM AULD.

J. FRASER PATON.

THOMAS MILLER, Jun.

JAMES A. ROBERTSON.

Dr. EDWARD MACKAY.

\*A. CAMPBELL FINLAY.

\*R. A. CLAPPERTON.

\*JOHN LANG.

\*ALEXANDER SHEARER.

\*THOMAS THOMSON.

\*GEORGE DUNLOP, B.L.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

A. CAMPBELL FINLAY.

R. A. CLAPPERTON, *Chairman.*

JOHN LANG.

ALEX. SHEARER.

THOMAS THOMSON, *Treasurer.*

GEORGE DUNLOP, B.L., *Secretary.*

*(Elected by Proprietors of Library.)*

ROBERT HAMILTON.

JOHN A. BROWN.

MALCOLM M'C. BROWN.

A. J. BLACK.

Rev. J. J. MACAULAY.

WILLIAM WATT.

*Curator of Museum—CHARLES BRUNTON.*

*Assistant Curator of Museum—A. MILLIGAN.*





# FORTY-SEVENTH ANNUAL REPORT.

SESSION 1907-1908.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the McLean Museum, on Friday Evening, 6th March, 1908—Rev. Charles Allan, M.A., Vice-President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .		£108	8	4
Tickets Sold—261 Members', at 10/6, . . . . .	£137	0	6	
„ 282 Ladies' and Youths', at 3/6, . . . . .	49	7	0	
	£186	7	6	
Bank Interest on Deposit Receipts, . . . . .	4	11	2	
		190	18	8
		£299	7	0

### EXPENDITURE.

Fees to Lecturers, . . . . .	£95	17	0	
Expenses in connection with Lectures, . . . . .	8	8	3	
Museum Committee—Lighting and Heating Hall, . . . . .	10	0	0	
Printing, Advertising, and Stationery, . . . . .	14	7	0	
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	9	2	6	
Secretary's and Treasurer's Outlays, . . . . .	2	18	4	
	£140	13	1	
Balance on Deposit Receipt with National Bank, . . . . .	158	13	11	
	£299	7	0	

## SCIENCE LECTURE FUND.

Balance at close of previous year, . . . . .	£33	5	1	
Add Interest for Year, . . . . .	0	19	10	
	£34	4	11	

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 3rd March, 1908.—Examined, certified correct, and Deposit Receipt exhibited.

D. S. MACPHERSON, } *Auditors.*  
JOHN S. WINGATE, }

## Statement of Proceedings.

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The Committee have pleasure in submitting the Forty-Seventh Annual Report of the Society.

The Membership of the Society and the issue of special tickets for use in Members' households have again been restricted solely by the size of the Lecture Hall, several applications having been refused. The number of ordinary Members is 261, and the number of tickets issued for Ladies and Youths amounts to 282. Throughout the Session the attendance at the Lectures has been good, testifying to the popularity of the meetings and the interest taken in the work of the Society.

The Programme as originally arranged has been carried out in its entirety. The thanks of the Society are due to Dr. George Neilson for the Opening Lecture, to Mr. F. C. Macdonald for his lecture on Burma, and to Mr. Frederick Soddy for the Watt Anniversary Lecture. Mr. Soddy's lecture will be printed and issued in due course as one of the papers of the Society.

On the occasion of the Watt Lecture, Dr. Robert Caird referred in appropriate terms to the death of Lord Kelvin and proposed that there be engrossed in the Society's Minute Book a resolution expressing the sense of the irreparable loss the world has sustained in the death of Lord Kelvin, the gratitude and pride with which the Members recall his association with this Society, and their sympathy with Lady Kelvin and the relatives in their bereavement.

The Syllabus was as follows :—

1907.

Oct. 25—OPENING LECTURE—“*Old Scots Shipping and Sea History.*”  
By GEORGE NEILSON, LL.D., Glasgow.

Nov. 1—“*People I have met.*” By RAYMOND BLATHWAYT.

„ 8—“*Burma.*” With Lantern Illustrations. By F. C. MACDONALD,  
Holytown.

„ 15—“*Worry: The Disease of the Age.*” By Dr. C. W.  
SALEEBY, F.R.S.E.

„ 22—“*Our National Songs.*” By Madame BERTHA MOORE.

„ 29—“*Mountaineering: Its Pleasures, Dangers, and Difficulties.*”  
With Lantern and Bioscope Illustrations. By F. ORMISTON-  
SMITH, of Swiss, German, and Austrian Alpine Clubs.

Dec. 6—“*A Humorist at Large.*” With Illustrations from the  
Lecturer's Drawings. By L. RAVEN-HILL, of “Punch.”

„ 13—“*Adventures in Cloudland.*” With Lantern Illustrations. By  
Miss BACON.

„ 30—BUSINESS MEETING. Annual Report by Museum Committee  
and Election of Representatives.

1908.

Jan. 17—WATT ANNIVERSARY LECTURE. “*The Source of Radio-  
Active Energy.*” By FREDERICK SODDY, M.A., Lecturer  
on Physical Chemistry, Glasgow University.

„ 24—DRAMATIC RECITAL. By ALEXANDER WATSON.

„ 31—“*Some Wonders of the Starry Heavens.*” With Lantern  
Illustrations. By Rev. EDWARD BRUCE KIRK, Lecturer  
Glasgow and West of Scotland Technical College.

Feb. 7—“*The Eye and the Aerial Graphoscope.*” By ERIC STUART  
BRUCE, M.A., Oxon.

„ 14—“*London in Shadow and Sunshine.*” By W. PETT-RIDGE.

„ 21—“*The Homes and Haunts of R. L. Stevenson.*” With  
Lantern Illustrations. By JAMES PATRICK.

„ 28—“*India: The Oriental Wonderland.*” With Lantern Illustrations.  
By E. G. P. COTELINGAM, late of “Madras Mail.”

Mar. 6—ANNUAL MEETING OF THE SOCIETY.

At a Meeting of the Society held on the 30th December, 1907, Messrs. Thomas Thomson and George Dunlop were re-elected as the Society's Representatives on the Museum Committee.

The Office-bearers who retire at this time are: Mr. J. G. Kincaid, President; Rev. Charles Allan, Vice-President; and Messrs. Victor C. Meyer, T. L. Patterson, John S. Wingate, James A. Maclean, and Dr. W. S. Cook, ordinary Members of Committee. Mr. John Robson having resigned on his leaving town, there is also another vacancy to be filled on the Committee for two years.

## M'Lean Museum and Lecture Hall.

### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT.

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society, held on 30th December, 1907.*

The Committee of Management beg to submit the Thirtieth Annual Report on the M'Lean Museum and Lecture Hall as follows :—

At the last Joint Annual Meeting of the Library Representatives and Philosophical Society, Mr. A. J. Black was elected to be a Member of the Committee of Management in place of Mr Andrew Carmichael, who had resigned after having served on the Committee for the period of twelve years, during which he took an active part in the management and did good work for the Museum. The other retiring members were all re-elected.

Mr. James D. Neill, one of the Library Representatives, was elected Chairman. The Committee met seven times during the year.

Most of the collections in the Museum have been added to by donation and by purchase, while one or two contributions have been received on loan, and the Committee again desire to thank all who by their contributions have added to the value and interest of the various sections of the Museum. Special mention must again be

made of a valuable contribution received from Mr. George R. Macdougall of New York, consisting of a large number of examples of the art work of old Japan in metal and lacquer, as applied to the decoration of swords, sword guards, etc. These have been placed in a case temporarily, but a new case will be constructed to receive them.

In connection with the Geological Section it is interesting to report that a representative collection illustrating the geology of the district is being made for the Museum by Mr. William J. C. Laurie, a young Greenock student presently at Oxford University. This should add considerably to the interest and usefulness of the geological collection. An interesting addition has just been received from the Royal Scottish Museum, Edinburgh, consisting of a selection of specimens of palaeolithic implements collected by Mr. James Cross, F.G.S., in Kent, and distributed with his consent. The usual contribution has been received from the Egypt Exploration Fund; and the loan collection from the Victoria and Albert Museum, South Kensington, has been renewed. The new collection consists of samples of English electrotypes, modern pottery, carved wood work, and glass ware, also several oil paintings. An interesting water colour painting by T. R. Lamont has been received on loan. A complete list of all the additions to the collections will be found in the Curator's report.

The Committee room, ladies' room, lavatories, and passages have been repainted and papered and are much improved in appearance.

The state of the stone work of the building has been giving the Committee some thought as signs of decay are evident in several places. Steps are, however, being taken to have this remedied as far as possible.

The Committee are at present considering the expediency of substituting a new and improved type of lamp in the Lecture Hall for the Nernst at present in use, which are becoming worn out.

The Hall has been well taken advantage of during the year, and the revenue derived from the letting of it is largely in excess of that of any previous year. The Treasurer's accounts show an unusually large balance of £251 19s 2d at credit of the Museum. This is explained by the fact that at the request of Mr. M'Lean's Trustees the accounts were not closed this year until December, in order to bring them as nearly as possible into line with the accounts of the Library. The result is that the accounts now submitted extend over a period of fourteen months and include three half-yearly grants from the Trustees instead of two. This will correct itself next year, but in order to arrive at a comparison with previous year's accounts, the amount of grant received in December, viz., £167 10s requires to be deducted from the above balance, leaving the sum of £84 9s 2d as the net balance.

The members of Committee who retire by rotation are—Mr. J. D. Neill and Mr. T. D. M'Murich from the Library representatives, and Mr Thomas Thomson and Mr. George Dunlop from the Philosophical Society's representatives. They are all eligible for re-election.

# McLEAN MUSEUM.

## ABSTRACT OF ACCOUNTS,

*For period from 6th October, 1906 till 19th December, 1907.*

### REVENUE.

Grant from McLean Trustees, . . . . .	£497 10 0
Rent of Hall, . . . . .	126 4 0
Interest, . . . . .	3 9 1
	<hr/>
	£627 3 1

### EXPENDITURE.

Salaries and Wages, . . . . .	£209 13 4
Cleaning, . . . . .	11 9 0
Furniture and Fittings, . . . . .	18 2 5
Repairs and Improvements, . . . . .	20 19 3
Repairs to Roof, . . . . .	11 9 10
Insurance and Feu-duty, . . . . .	£32 10 4
Less Insurance Repaid, . . . . .	0 5 6
	<hr/>
	32 4 10
Specimens for Museum, . . . . .	36 2 0
Taxes and Assessments, . . . . .	62 18 0
Coal, Gas, and Electricity, . . . . .	34 5 3
Sundries, . . . . .	18 12 2
	<hr/>
	455 16 1
Leaving a Credit Balance of . . . . .	171 7 0
To which has to be added Credit Balance from last year, . . . . .	80 12 2
	<hr/>
Net Balance at <i>Credit</i> of Committee, . . . . .	£251 19 2
Union Bank—Current Account, . . . . .	£24 9 2
Do. Deposit Receipt, . . . . .	227 10 0
	<hr/>
	£251 19 2

THOMAS THOMSON, *Hon. Treas.*

GREENOCK, 23rd December, 1907.—Audited and found correct. The Deposit Receipts have been exhibited to us, and are in order.

(Signed) NICOLL & CARMICHAEL, *Auditors.*



## LIST OF MEMBERS FOR 1907-1908.

## I.—Honorary Members.

*(With Year of Election.)*

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
EDWARD CAIRD, M.A., LL.D., D.C.L.,	1865
Sir ANDREW NOBLE, K.C.B., F.R.S.,	1890
F. P. PURVIS, Wh. Sc.,	1902

## II.—Ordinary Members.

ADAM, JOHN	29a Finnart Street.
ADAM, WILLIAM	12 Newark Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AGNEW, JAMES	1 Newark Street.
ALLAN, ALEXANDER, C.A.	39 Margaret Street.
ALLAN, Rev. C., M.A.	93 Newton Street.
ALLAN, JOHN	17 Newton Street.
ALLAN, WILLIAM, M.D.	33 Union Street.
ANDERSON, J. WALLACE	97 Brisbane Street.
ANDERSON, JAMES A.	61a Finnart Street.
ARCHIBALD, THOMAS P.	37 Fox Street.
AULD, WILLIAM	79 Newton Street.
AUSTIN, WILLIAM R.	61 Brisbane Street.
BAIRD, DAVID	Hunter Villa, Gourrock.
BARR, WILLIAM	47 Finnart Street.
BATHGATE, ALEXANDER	42 Robertson Street.
BIGGART, C. M.,	39 Brisbane Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, Miss F. E.	11 Kelly Street.
BLACK, THOMAS	33 Ardgowan Street.
BLACKWOOD, M. CRAIG	Craigiehaugh, Port-Glasgow.

BLACKWOOD, W.	Craigiehaugh, Port-Glasgow.
BORTHWICK, Mrs. T.	66 Newton Street.
BOYD, Miss SARAH G.	39 Union Street.
BOYD, W. D.	87 South Street.
BRADLEY, GEORGE	17 Manor Crescent, Gourrock.
BROWN, J. D.	61 Finnart Street.
BROWN, W. A.	16 Eldon Street.
BROWN, W. A., B.Sc., M.B., CH.B.	54 Brisbane Street.
BUBB, HERBERT J.	12 Margaret Street.
BUCHANAN, HENRY	43 Finnart Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMERON, JOHN	Finnart House.
CAMPBELL, J.	35 Brisbane Street.
CARMICHAEL, ANDREW	44 Ardgowan Street (W.).
CARMICHAEL, ANDREW	41 Union Street.
CARMICHAEL, A. G.	41 Union Street.
CARMICHAEL, DUNCAN	50 Brisbane Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	44 Ardgowan Street (W.)
CARMICHAEL, WM. H.	76 Finnart Street.
CHALMERS, JAMES	5 Finnart Road.
CLAPPERTON, ROBERT A.	61 Union Street.
CLARK, W. B.	42 Robertson Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, Mrs. C. W.	17 Fox Street.
COLQUHOUN, DUNCAN	42 Brisbane Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	2 Ardgowan Square.
COOPER, Mrs.	17 Ardgowan Square.
CORRY, Miss	Beltrees, 56 Union Street.
CRAIG, JAMES	Lloyd's Office, Cross-shore Street.
CRAWFORD, ANDREW	9 Robertson Street.
CRAWFORD, JAMES	30 Ardgowan Street (W.)
CRAWFORD, J. W.	41 Newark Street.
CRAWFORD, JOHN F.	20 Nelson Street.
CRAWFORD, THOMAS	61 Esplanade.

CUNNINGHAM, T. A. . . .	87 Brisbane Street.
CURTIS, W. H. . . .	38 Newark Street.
CUTHBERT, GILBERT, . . .	29 Brisbane Street.
DENNISTON, J. S. . . .	19 Patrick Street.
DICKSON, W. A. . . .	National Bank.
DONALD, JAMES . . . .	24 Forsyth Street.
DOWNIE, ANDREW . . . .	41 Fox Street.
DRUMMOND, JOHN, JR. . . .	60 South Street.
DRUMMOND, NEIL . . . .	60 South Street.
DUFF, Miss . . . .	52 Eldon Street.
DUNCAN, JOHN . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, . . . .	27 Ardgowan Street.
DUNLOP, GEORGE, B.L. . . .	95 Newton Street.
DUNLOP, MALCOM, M.A., LL.B. .	95 Newton Street.
DUNLOP, JOHN . . . .	23 Union Street.
ELLIOTT, ROBERT . . . .	61 Finnart Street.
ERSKINE, D. M. . . .	22 Margaret Street.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FINDLAY, JOHN . . . .	20 Union Street.
FISHER, Mrs, R. F. . . .	42 Newark Street.
FORBES, JOHN . . . .	39 Ardgowan Street.
FORTY, Miss ISABELLA C. . . .	Beltrees, 56 Union Street.
FRAME, JAMES . . . .	14 Eldon Street.
FULLARTON, HUGH . . . .	103 Finnart Street.
GALLOWAY, J. W. . . .	17 Ardgowan Square.
GATHERER, JAMES . . . .	97 Eldon Street.
GIBSON, W. . . .	Craigiehaugh, Port-Glasgow.
GLEN, JAMES . . . .	19 Octavia Terrace.
GRAY, ROBERT . . . .	23 Patrick Street.
GRIEVE, W. R. . . .	49 Margaret Street.
GRIEVE, Mrs. J. . . .	95 Finnart Street.
HAMILTON, ROBERT . . . .	27 Union Street.
HAMILTON, Miss . . . .	28 Eldon Street.
HARVEY, JAMES, L. . . .	11 Margaret Street.
HYNDMAN, J. G. . . .	6 Fox Street.
HENDERSON, Mrs. . . .	13 Kelly Street.
HENDERSON, Mrs. . . .	18 Finnart Street.
HENDERSON, W. F. . . .	57 Forsyth Street.
HENDRY, J. . . .	9 Robertson Street.

HERON, WILLIAM . . .	5 Caddlehill Street.
HILL, ROBERT, . . .	75 Union Street.
HOUSTON, ANDREW . . .	17 Forsyth Street.
HOUSTON, R. C. . . .	40 Newark Street.
HUTCHISON, JAMES . . .	30 Brisbane Street.
HUTCHISON, JOHN B. . .	27 Finnart Street.
HUTCHISON, JAMES H. . .	26 Newark Street.
INGLIS, Mrs. R. . . .	44 Eldon Street.
JAMES, WILLIAM . . .	13 South Street.
JERDAN, Mrs. . . .	68 Union Street.
JOHNSTON, JAMES . . .	Shipbank, Lyle Street.
KERR, CHAS. F. . . .	Rosemount, Bentinck Street.
KINCAID, JOHN G. . . .	Westthorpe, Newark Street.
KIRKWOOD, H. WILLIAM . .	62 Forsyth Street.
LAIRD, JAMES . . .	35 Newton Street.
LANG, JOHN . . .	Station Hotel, Kilmacolm.
LANG, Mrs. JOHN . . .	Eldon Place.
LAURENSEN, C.D. . . .	Commercial Bank.
LAURIE, WILLIAM, . . .	15 Robertson Street.
LAURIE, WILLIAM, Jun., . .	15 Robertson Street.
LEITCH, ARTHUR O. . . .	9 Ardgowan Square.
LEITCH, JOHN . . .	15 Ardgowan Square.
LOCHHEAD, ROBERT . . .	63 Union Street.
LOVE, JOHN W. . . .	Royal Bank.
LOVE, JAMES A. . . .	Royal Bank.
LYLE, J. L. . . .	109 Finnart Street.
LYON, JAMES . . .	Sugar Exchange.
MACARA, GRIERSON . . .	37 Finnart Street.
M'ARTHUR, HUGH G. . . .	43 Brisbane Street.
M'AUSLAN, D. . . .	62 Campbell Street.
M'CALLUM, ALEXANDER . .	Glenburn, Newark Street.
M'CLURE, WILLIAM, M.A. . .	24 Margaret Street.
MACCUTCHEON, H. . . .	Town Clerk's Office.
MACDOUGALL, DUGALD . . .	3 Newark Street.
MACDOUGALL, G. R. . . .	22 Fox Street.
MACDONALD, GEORGE . . .	101 Finnart Street.
M'EWAN, JAMES . . .	5 Caddlehill Terrace.
MACFARLAN, Miss ELLA . .	75 Union Street.
MACFARLAN, ROBERT, C.A. .	72 Forsyth Street.

M'GREGOR, CHARLES	. . .	48 Brisbane Street.
M'GREGOR, R.	. . .	Sandringham Terrace.
M'GUGAN, D.	. . .	6 Hope Street.
MACKINTOSH, HUGH	. . .	National Bank.
MACINTOSH, NEIL	. . .	39 Ardgowan Street.
MACKAY, EDWARD, M.B., C.M.	. . .	10 Ardgowan Square.
M'KELLAR, A. B.	. . .	2 Fox Street.
M'KELLAR, P.	. . .	45 Finnart Street.
M'KINNON, JOHN	. . .	2 Lyle Street.
M'KIRDY, ROBERT	. . .	78 Union Street.
M'LEAN, HUGH	. . .	35 Margaret Street.
M'LEAN, Miss	. . .	27 Mearns Street.
MACLEAN, ALEX. S.	. . .	33 Bank Street.
MACLEAN, JOHN	. . .	63 Forsyth Street.
MACLEAN, JAMES A.	. . .	3 Octavia Terrace.
MACMILLAN, DAVID	. . .	14 Kelly Street.
M'NEIL, JAMES	. . .	9 Bentinck Street.
MACONIE, PETER	. . .	40 Mearns Street.
MACPHERSON, DAVID S.	. . .	65 Finnart Street.
MACPHERSON, ROBERT	. . .	76 Forsyth Street.
M'QUISTAN, R. M.	. . .	40 Campbell Street.
MARSHALL, C. W., M.B., C.M.	. . .	8 Ardgowan Square.
MASSICKS, WILLIAM	. . .	67 Rue-end Street.
MATHIESON, LINDSAY	. . .	23 Brisbane Street.
MELROSE, ALEX.	. . .	Lily Bank, Port-Glasgow.
MENZIES, ALEX.	. . .	21 Brisbane Street.
MEYER, VICTOR C.	. . .	56 Finnart Street.
MILLAR, J.	. . .	17 Kelly Street.
MILLAR, WILLIAM	. . .	9 Octavia Terrace.
MILLER, NEIL K.	. . .	2 Fox Street.
MILLER, THOMAS, Jun.	. . .	2 Fox Street.
MITCHELL, M.	. . .	31 Robertson Street.
MITCHELL, WALTER	. . .	4 Hope Street.
MORIES, A. S.	. . .	157 Eldon Street.
MORRISON, D. A.	. . .	Lyle Road.
MORTON, ROBERT	. . .	1 Wood Street.
MUIR, JAMES D.	. . .	23 Union Street.
MUIR, Miss	. . .	36 Margaret Street.
MULLENS, A. J.	. . .	37 Robertson Street.

MUMME, CARL . . . .	30 Newark Street.
MURRAY, GEORGE . . . .	2 Argyle Street.
NEILL, GEO. D. . . . .	39 Newark Street.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NEILL, J. D. . . . .	55 Esplanade.
NEILL, WALTER GRIEVE . . . .	1 Bedford Street.
NEILSON, MATTHEW . . . .	16 Forsyth Street.
NEISH, Sheriff . . . . .	5 Newark Street.
NICOL, DUNCAN . . . . .	2 Octavia Terrace.
NICOL, GAVIN . . . . .	25 Brisbane Street.
NICOLL, JAMES . . . . .	32 Margaret Street.
ORR, RYRIE, M.A. . . . .	35 Esplanade.
ORR, DANIEL . . . . .	41 Dempster Street.
PARKER, G . . . . .	52 South Street.
PATERSON, Mrs. . . . .	20 Eldon Street.
PATERSON, DAVID . . . . .	4 Bedford Street.
PATERSON, JAMES . . . . .	33 Finnart Street.
PATERSON, JAMES . . . . .	58 Campbell Street.
PATTERSON, T.L., F.I.C., F.C.S.,	59 Finnart Street.
PATON, J. FRASER . . . . .	1 Rosneath Street.
PATRICK, JOHN B. . . . .	36 Campbell Street
PAUL, W. B. . . . .	53 Newton Street.
PRENTICE, A. R. . . . .	28 Newark Street.
PRENTICE, J. G. . . . .	54 Esplanade.
PRENTICE, THOMAS . . . . .	45 Ardgowan Street (W.)
PURVES, Miss . . . . .	46 Forsyth Street.
RAMSAY, ALEX. . . . .	15 South Street.
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . . .	21 Octavia Terrace.
RICHARDSON, ROBERT . . . . .	27 Finnart Street.
ROBERTSON, JAMES A. . . . .	65 Forsyth Street.
RODGER, A. S. . . . .	42 Forsyth Street.
RODGER, JOHN . . . . .	42 Forsyth Street.
RORISON, THOMAS D. . . . .	24 Roxburgh Street.
ROSS, HEW RAMSAY . . . . .	48 Brisbane Street.
ROSS, HUGH M. . . . .	63 Esplanade.
ROUGVIE, JAMES . . . . .	21 Forsyth Street.
ROWAN, GEORGE . . . . .	41 Ardgowan Street.
ROWAN, R. HOUSTON . . . . .	50 Eldon Street.

ROWLEY, THOMAS	Eldon Place.
RUSSELL, JOSEPH	The Knowe.
SCOBIE, LAWRENCE	53 Brisbane Street.
SCOTT, JOSEPH D.	63 Finnart Street.
SCOTT, R. L.	Silwood, 33 Margaret Street.
SCOTT, WALTER D.,	Feorline, Broomberry Drive, Gourrock.
SERVICE, WILLIAM	56 Regent Street.
SHARP, ROBERT	Octavia Street, Port-Glasgow.
SHARP, WILLIAM	13 Caddlehill Terrace.
SHAW-STEWART, Lady ALICE	Ardgowan, Inverkip.
SHAW-STEWART, Sir M. HUGH, Bart.	Ardgowan, Inverkip.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ARCHIBALD,	93 Eldon Street.
SHEARER, JAMES	Benview, Gourrock.
SINCLAIR, THOMAS ORD, C.A.	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S.	Hunter Villa, Gourrock.
SMITH, Mrs.	65 Union Street.
STEEL, JAMES S.	23A Forsyth Street.
STEWART, A.	18 Robertson Street.
STEWART, ANDREW	14 Newark Street.
STEWART, JAMES K.	58 Esplanade.
STEWART, J.	18 Murdieston Street.
STEWART, THOMAS O.	45 Union Street.
SWAN, R.	1 Johnstone Street.
TAIT, R. G.	28 Ardgowan Street.
TANNOCK, QUINTIN, Jr.	8 Brisbane Street.
TAYLOR, J. G.	33 Esplanade.
THOM, W. A.	20 Ardgowan Street.
THOMSON, THOMAS	69 Newton Street.
THORBURN, JAS. G.	4 Newark Street.
THORNE, ROBERT	36 Newark Street.
TIERNEY, EDWARD J.	75 Brisbane Street.
TURNBULL, ALEXR. J.	60 Campbell Street.
TURNER, Mrs.	9 Fox Street.
WALKER, HUGH W.	Bellevue, Johnstone Street.
WALKER, JOHN	59 Newton Street.
WARDLE, JAMES	2 Esplanade.
WATSON, W. S.	58 Brisbane Street.
WEIR, JOHN	64 Kelly Street.

WILLIAMSON, ALEXANDER .	. . .	67 Esplanade.
WILSON, Mrs. JAMES .	. . .	Thornhill, 37 Ardgowan Street.
WINGATE, JOHN S. .	. . .	72 Eldon Street.
WREDE, FRED LEAR .	. . .	27 Bentinck Street.
YOUNGER, ROBERT L. .	. . .	22 Fox Street.
YOUNG, JOHN .	. . .	24 Finnart Street.





PRESENTED  
22 SEP 1936







FORTY-EIGHTH  
ANNUAL REPORT  
OF THE  
Greenock  
Philosophical Society

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Session 1908-1909.

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GREENOCK :  
" TELEGRAPH " PRINTING WORKS, SUGARHOUSE LANE.  
1909.



# Greenock Philosophical Society.

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## OFFICE-BEARERS FOR SESSION 1909-1910.

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President—REV. CHARLES ALLAN, M.A.

Vice-Presidents— $\left\{ \begin{array}{l} \text{VICTOR C. MEYER.} \\ \text{ALEXANDER S. MORIES.} \end{array} \right.$

Treasurer—WILLIAM ADAMSON, 22 Margaret Street.

Secretary—W. D. BOYD, 2 Church Place.

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### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

JAMES CRAWFORD.

JAMES CRAIG.

LAWRENCE SCOBIE.

W. F. HENDERSON.

Dr. W. A. BROWN.

WILLIAM AULD.

J. FRASER PATON.

THOMAS MILLER, Jun.

JAMES A. ROBERTSON.

Dr. EDWARD MACKAY.

Sheriff NEISH.

Rev. J. J. MACAULAY.

R. L. SCOTT.

DAVID BAIRD.

R. L. YOUNGER.

\*JOHN LANG.

\*ALEXANDER SHEARER.

\*THOMAS THOMSON.

\*GEORGE DUNLOP, B.L.

\*R. A. CLAPPERTON.

\*R. D. CARMICHAEL.

*\* Representatives in Museum Committee.*

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### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

JOHN LANG.

ALEX. SHEARER.

THOMAS THOMSON, *Treasurer.*

GEORGE DUNLOP, B.L., *Secretary.*

R. A. CLAPPERTON.

R. D. CARMICHAEL.

*(Elected by Proprietors of Library.)*

MALCOLM M'C. BROWN.

A. J. BLACK.

Rev. J. J. MACAULAY.

WILLIAM WATT, *Chairman.*

A. R. PRENTICE.

ALF M'KILLOP.

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*Curator of Museum—CHARLES BRUNTON.*

*Assistant Curator of Museum—A. MILLIGAN.*





# FORTY-EIGHTH ANNUAL REPORT.

SESSION 1908-1909.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the McLean Museum, on Friday Evening, 5th March, 1909—Rev. Charles Allan, M.A., President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£158 13 11
Tickets Sold—270 Members', at 10/6, . . . . .	£141 15 0
„ 286 Ladies' and Youths', at 3/6, . . . . .	50 1 0
	<hr/>
	£191 16 0
Bank Interest on Deposit Receipts, . . . . .	2 4 1
	<hr/>
	194 0 1
	<hr/>
	£352 14 0

### EXPENDITURE.

Fees to Lecturers, . . . . .	£134 14 6
Expenses in connection with Lectures, . . . . .	14 6 0
Museum Committee—Lighting and Heating Hall, . . . . .	10 0 0
Printing, Advertising, and Stationery, . . . . .	22 16 10
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	10 8 0
Secretary's and Treasurer's Outlays, . . . . .	3 11 0
	<hr/>
	£195 16 4
Balance on Deposit Receipt with National Bank, . . . . .	156 17 8
	<hr/>
	£352 14 0

## SCIENCE LECTURE FUND.

Balance at close of previous year, . . . . .	£34 4 11
Add Interest for Year, . . . . .	1 0 5
	<hr/>
Balance now in Provident Bank, . . . . .	£35 5 4

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 2nd March, 1909.—Examined, certified correct, and Deposit Receipt exhibited.

W. F. HENDERSON, {  
THOS. MILLER, JR., } *Auditors.*

## Statement of Proceedings.

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The Committee have pleasure in submitting the Forty-Eighth Annual Report of the Society. The number of Ordinary Members is 270 and the number of tickets issued for Ladies and Youths amount to 286, an increase of 9 and 4 respectively over the preceding year. These numbers could have been still further increased had the accommodation of the Society's Hall permitted, several applications for Membership having been refused. The attendance at the Lectures has been good and has been well maintained to the end of the Session, testifying to the popularity of the Syllabus and the interest taken in the work of the Society. The Programme as originally arranged has been carried out in its entirety. The thanks of the Society are due to Sir John Stirling Maxwell for the Opening Lecture and to the Hon. Charles A. Parsons for the Watt Anniversary Lecture. Dr. Parsons' Lecture will be printed and issued in due course as one of the papers of the Society.

The Committee have had under consideration the advisability of changing the hour of meeting to suit the convenience of Lecturers who have to return to Glasgow, and they recommend to this meeting that in future the Chair be taken at eight o'clock.

The thanks of the Society are due to the Committee of the Museum for the ready manner in which they have met various suggestions of your Committee in regard to matters tending to increase the comfort of the audiences.

The Committee regret to have to record the death of one of the Honorary Members of the Society, our illustrious townsman Dr. Edward Caird, Master of Balliol. Dr. Caird was elected an Honorary Member in 1865, and the Society have been indebted to him not only for lecturing but for his interest and assistance at various times.

The Syllabus was as follows :—

- <sup>1908.</sup>  
 Oct. 30—OPENING LECTURE—“*The Preservation of Ancient Buildings.*”  
 With Lantern Illustrations. By Sir JOHN STIRLING  
 MAXWELL, Bart., LL.D.
- Nov. 6—“*Ice, Water, and Steam.*” Illustrated by Experiments. By  
 Dr. W. HAMPSON, M.A., Oxon.
- „ 13—“*Garden Cities: Actual in England, Practicable in Scotland.*”  
 With Lantern Illustrations. By EBENEZER HOWARD,  
 Founder of the Garden City and Town Planning Association.
- „ 20—“*Hamlet—The Tragedy of Indecision.*” By Rev. JOHN  
 HUNTER, D.D., Glasgow.
- „ 27—“*The Glory that was Greece.*” With Lantern Illustrations  
 By JOHN M. ROBERTSON, M.P.
- Dec. 4—“*The Art of George Frederick Watts, R.A.*” With Lantern  
 Illustrations. By WHITWORTH WALLIS, F.S.A.
- „ 11—“*The Migration of Birds.*” With Lantern Illustrations. By  
 J. ARTHUR THOMSON, M.A., Professor of Natural History  
 in Aberdeen University.
- „ 18—DRAMATIC RECITAL. By ERNEST DENNY.
- „ 28—BUSINESS MEETING. Annual Report by Museum Committee  
 and Election of Representatives.
- <sup>1909.</sup>  
 Jan. 15—WATT ANNIVERSARY LECTURE. “*The Expansive Working  
 Steam in Steam Turbines.*” By Hon. CHARLES A. PARSONS.
- „ 22—“*America Up-to-date.*” With Lantern Illustrations. By JOHN  
 FOSTER FRASER, F.R.G.S.
- „ 29—“*Tennyson's 'The Coming of Arthur.'*” By Rev. A. B. BOYD  
 CARPENTER, M.A.
- Feb. 5—“*The Arts and Industries of India.*” Illustrated with Lantern  
 Slides and Specimens. By Sir GEORGE WATT, C.I.E.,  
 LL.D., &c.
- „ 12—“*Irish Fairy Songs and Tales.*” With Musical Illustrations.  
 By Miss MADELEINE O'CONNOR.
- „ 19—“*The Personalities of Animals.*” With Lantern Illustrations.  
 By ERNEST THOMPSON SETON.
- „ 26—“*Social Evolution.*” By HENRY JONES, M.A., LL.D.,  
 Professor of Moral Philosophy in Glasgow University.
- Mar. 5—ANNUAL MEETING OF THE SOCIETY.

At a Meeting of the Society held on the 28th December, 1908, Messrs. R. A. Clapperton and R. D. Carmichael were elected as the Society's representatives on the Museum Committee.

The Office-bearers who retire at this time are : Mr F. L. Wrede, Vice-President ; and Dr. William Allan, Messrs. Thomas Rowley, W. A. Dickson, T. O. Stewart, and D. S. Macpherson, ordinary Members of Committee. Mr. John W. Love having resigned on his leaving town, there is also another vacancy to be filled on the Committee for one year.

## M'Lean Museum and Lecture Hall.

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### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT.

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society held on 28th December, 1908.*

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The following is the Thirty-first Annual Report on the Museum and Lecture Hall, which the Committee of Management have pleasure in laying before their constituents.

At last Annual Meeting two new Members were elected to represent the Library, vizt:—the Rev. J. J. Macaulay and Mr. William Watt, these taking the place of Mr. James D. Neill and Mr. T. D. M'Murich. Otherwise the constitution of the Committee remained unchanged.

The Chairman for the year fell to be chosen from the representatives of the Philosophical Society, and at the Statutory Meeting held in the beginning of the year Mr. R. A. Clapperton was elected Chairman.

A detailed list of the additions made to the Museum during the year will be found in the Curator's Report, and the Committee desire to thank those who from time to time have sent objects or specimens as additions to the various collections.

Mr. Edward S. Russell has just completed the Zoological Type Collection on which he has been at work for the last two or three

years. The collection consists of some seventy preparations illustrative of most of the great groups of animals. A few of the types have been prepared to show internal anatomy, but for the most part the collection consists of typical animals mounted to show their general appearance. Most of the Invertebrates are represented by marine forms common in the Clyde or in British waters. The collection will be found in the West Gallery near the entrance door, and should prove of great value to students.

The Geological collection by Mr. William J. C. Laurie, referred to in last Annual Report, has also been completed. It contains 245 specimens and is intended to show the chief types of rocks found in the area of the Clyde basin below Glasgow. A few specimens, however, have been taken from just outside that area. The rocks are classified according to origin and composition rather than according to locality, as being more useful to students, and, Mr. Laurie remarks, perhaps more satisfactory in general. The specimens have been placed in two new cases occupying the centre of the Museum and these, together with the Geological Survey Maps of the District which have been procured for reference, form an important addition to the Geological Section.

The Committee desire to express the great pleasure they have in receiving these two collections, representing, as they do, a great amount of skill and labour given freely by two young Greenock students in the time they could spare from their own work and studies; and the Committee now record their thanks to Mr. Russell and Mr. Laurie for having made these valuable additions to the collections in the Museum. It should be mentioned that both gentlemen in their reports to the Committee acknowledge their indebtedness to Mr. Brunton, the Curator, for his willing and careful assistance in the arrangement of the specimens and the preparation of labels, often given long after the usual closing hour of the Museum.

Among the additions to the collection of pictures may be mentioned an old coloured print (1835) of the Royal Northern Yacht Club Regatta off the Bay of Quick, and a Water Colour of the Old Mansion House by Patrick Downie, R.S.W.

The stone work of the Building has now been thoroughly repaired—the work having been carried out by Messrs. Phillips & Son, at a cost of £45, and is reported to be in a satisfactory condition.

The lighting of the Hall has been under consideration by the Committee, but having regard to further improvements likely to be introduced in the manufacture of the latest pattern of lamp, the matter was deferred. It will, however, require to be dealt with on an early date. To supplement the Nernst lamps and to give instantaneous lighting when required, arrangements were made with the Corporation Electricity Department to supply a central fitting with Osram lamps which is proving satisfactory.

In accordance with a request by the Philosophical Society, the doors from the Hall to the Committee Room, and from that room to the passage have been made to swing, so as to open outwards. The exit door at the south east corner of the Hall, which has always been available as an emergency exit, has recently been utilised by the Philosophical Society to afford speedier exit from the Hall at the close of the Lectures—arrangements being made for the opening of the gate leading into Watt Street. A new curtain has been fitted at the entrance-door to help to reduce the draughts along the back of the Hall.

From the Abstract of the Treasurer's Accounts, which is appended, it will be seen that the expenditure has exceeded the revenue by £85 14s 11d. This is accounted for partly by the expenditure on the stone work already referred to, and increased expenditure on repairs and furniture; and partly by a reduction in the amount of Grant received from the M'Lean Trustees, and in the revenue derived from letting the Hall. As, however, in accordance with the agreement come to last year, the Accounts are kept open till the Grant for the second half of the year is received, a balance of £166 4s 3d is shown as at the credit of the Committee.

The members of Committee who retire by rotation at this time are—Messrs. Robert Hamilton and John A. Brown, from the Library Representatives; and Messrs A. Campbell Finlay and Robert A. Clapperton, from the Philosophical Society's Representatives. These are all eligible for re election.

# McLEAN MUSEUM.

## ABSTRACT OF ACCOUNTS,

*For Year ending 11th December, 1908.*

### REVENUE.

Grant from M <sup>c</sup> Lean Trustees, . . . . .	£305	0	0
Rent of Hall, . . . . .	54	6	0
Interest, . . . . .	3	0	2
	<u>£362</u>	6	2

### EXPENDITURE.

Salaries and Wages, . . . . .	£178	0	0
Cleaning, . . . . .	9	15	0
Furniture and Fittings, . . . . .	70	3	7
Repairs and Improvements, . . . . .	53	14	8
Insurance and Feu-duty, . . . . .	30	13	6
Specimens for Museum, . . . . .	7	18	6
Taxes and Assessments, . . . . .	31	13	2
Coal, Gas, and Electricity, . . . . .	44	4	9
Sundries, . . . . .	21	17	11
		<u>448</u>	1 1
Leaving a Debit Balance of . . . . .		85	14 11
Credit Balance from last year, . . . . .		251	19 2
		<u>£166</u>	4 3
Net Balance at <i>Credit</i> of Committee, . . . . .			
Union Bank—Current Account, . . . . .	£26	4	3
Do. Deposit Receipt, . . . . .	140	0	0
		<u>£166</u>	4 3

THOMAS THOMSON, *Hon. Treas.*

*Note.*—The above balance of £166 4s 3d includes the sum of £140 being Grant received from M<sup>c</sup>Lean Trustees on date of closing the Books.—T. T.

GREENOCK, 22nd December, 1908.—Audited and found correct. The Deposit Receipt for £140 has been exhibited to us, and is in order.

(Signed) NICOLL & CARMICHAEL, *Auditors.*



## LIST OF MEMBERS FOR 1908-1909.

### I.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S., . . . . .	1863
CHAS. GREVILLE WILLIAMS, F.R.S., . . . . .	1863
Sir ANDREW NOBLE, Bart., F.R.S., . . . . .	1892
F. P. PURVIS, WH. SC., . . . . .	1902

### II.—Ordinary Members.

ADAM, JOHN . . . . .	29a Finnart Street.
ADAM, Miss . . . . .	7 Madeira Street.
ADAM, WILLIAM . . . . .	12 Newark Street.
ADAMSON, WILLIAM . . . . .	Rockhill, 22 Margaret Street.
AGNEW, JAMES . . . . .	1 Newark Street.
ALLAN, ALEXANDER, C.A. . . . .	39 Margaret Street
ALLAN, Rev. C., M.A. . . . .	93 Newton Street.
ALLAN, JOHN . . . . .	17 Newton Street.
ALLAN, WILLIAM, M.D. . . . .	33 Union Street.
ANDERSON, J. WALLACE . . . . .	97 Brisbane Street.
ARCHIBALD, THOMAS P. . . . .	37 Fox Street.
AULD, WILLIAM . . . . .	79 Newton Street.
AUSTIN, WILLIAM R. . . . .	61 Brisbane Street.
BAIRD, DAVID, M.A. . . . .	Hunter Villa, Gourrock.
BALLMENT, Miss . . . . .	39 Fox Street.
BARR, WILLIAM . . . . .	47 Finnart Street.
BATHGATE, ALEXANDER . . . . .	42 Robertson Street.
BIGGART, C. M., . . . . .	39 Brisbane Street.
BLACK, A. J. . . . .	16 Ardgowan Square.
BLACK, Miss F. E. . . . .	11 Kelly Street.
BLACK, THOMAS . . . . .	33 Ardgowan Street.
BLACKWOOD, M. CRAIG . . . . .	Craigiehaugh, Port-Glasgow.

BORTHWICK, Mrs. T.	66 Newton Street.
BOYD, DAVID	54 South Street.
BOYD, Miss SARAH G.	39 Union Street.
BOYD, W. D.	87 South Street.
BRADLEY, GEORGE	49 Newark Street.
BROWN, J. D.	61 Finnart Street.
BROWN, W. A.	16 Eldon Street.
BROWN, W. A., B.Sc., M.B., Ch.B.	54 Brisbane Street.
BUCHANAN, HENRY	43 Finnart Street.
CAIRD, COLIN S.	13 Newark Street.
CAIRD, PATRICK T.	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMERON, JOHN	Finnart House.
CAMPBELL, J.	35 Brisbane Street.
CAMPBELL, JOHN H.	Arnisdale, Gourrock.
CARMICHAEL, ANDREW	44 Ardgowan Street (W.).
CARMICHAEL, ANDREW	41 Union Street.
CARMICHAEL, DUNCAN	50 Brisbane Street.
CARMICHAEL, J. D. M.	93 Finnart Street.
CARMICHAEL, R. D.	93 Finnart Street.
CARMICHAEL, THOMAS	44 Ardgowan Street (W.).
CARMICHAEL, WM. H.	76 Finnart Street.
CHALMERS, JAMES	5 Finnart Road.
CLAPPERTON, ROBERT A., C.A.	61 Union Street.
CLARK, W. B.	42 Robertson Street.
CLERK, DUNCAN	25 Octavia Terrace.
CLINK, Mrs. C. W.	17 Fox Street.
COLQUHOUN, DUNCAN	42 Brisbane Street.
COOK, ARCHIBALD	71 Newton Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	2 Ardgowan Square.
COOPER, Mrs.	17 Ardgowan Square.
CORRY, Miss	Beltrees, 56 Union Street.
CRAIG, JAMES	Lloyd's Office, Cross-shore Street.
CRAWFORD, ANDREW	32 Ardgowan Street.
CRAWFORD, JAMES	30 Ardgowan Street (W.).
CRAWFORD, J. W.	41 Newark Street.
CRAWFORD, JOHN F.	20 Nelson Street.
CRAWFORD, THOMAS	61 Esplanade.

CUNNINGHAM, T. A. . . .	87 Brisbane Street.
CURTIS, W. H. . . .	38 Newark Street.
CUTHBERT, GILBERT, . . .	29 Brisbane Street.
DEWAR, OWEN . . . .	19 West Blackhall Street.
DENNISTON, J. S. . . .	19 Patrick Street.
DICKSON, W. A. . . .	National Bank.
DONALD, JAMES . . . .	24 Forsyth Street.
DOWNIE, ANDREW . . . .	41 Fox Street.
DRUMMOND, JOHN, Jr. . . .	60 South Street.
DRUMMOND, NEIL . . . .	60 South Street.
DUFF, Miss . . . .	52 Eldon Street.
DUNCAN, JOHN . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, . . . .	27 Ardgowan Street.
DUNLOP, GEORGE, B.L. . . .	95 Newton Street.
DUNLOP, MALCOM, M.A., LL.B. . .	95 Newton Street.
DUNLOP, JOHN . . . .	23 Union Street.
DUNN, Rev. H., M.A., B.D., . . .	31 Finnart Street.
ELLIOTT, ROBERT . . . .	61 Finnart Street.
ERSKINE, D. M. . . .	22 Margaret Street.
FERRIER, HUGH . . . .	44 Robertson Street.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FINDLAY, JOHN . . . .	20 Union Street.
FISHER, Mrs, R. F. . . .	42 Newark Street.
FORTEY, Miss ISABELLA C. . . .	Beltrees, 56 Union Street.
FRAME, JAMES . . . .	14 Eldon Street.
FULLARTON, G. A. . . .	Ross Bank, Port-Glasgow.
FULLARTON, HUGH . . . .	103 Finnart Street.
GALLOWAY, J. W. . . .	17 Ardgowan Square.
GLEN, JAMES . . . .	19 Octavia Terrace.
GOW, L. N. . . .	15 Newton Street.
GRAY, ROBERT . . . .	23 Patrick Street.
GRIEVE, W. R. . . .	49 Margaret Street.
GRIEVE, Mrs. J. . . .	95 Finnart Street.
HAMILTON, ROBERT, F.S.I. . . .	27 Union Street.
HAMILTON, Miss . . . .	28 Eldon Street.
HARVEY, JAMES, L. . . .	11 Margaret Street.
HENDERSON, Mrs. . . .	13 Kelly Street.
HENDERSON, Mrs. . . .	18 Finnart Street.
HENDERSON, W. F. . . .	57 Forsyth Street.

HENDRY, J.	9 Robertson Street.
HENRY, Miss	61A Finnart Street.
HERON, WILLIAM	5 Caddlehill Street.
HILL, ROBERT,	75 Union Street.
HOUSTON, ANDREW	17 Forsyth Street.
HOUSTON, R. C.	40 Newark Street.
HUNTER, J. P.	Union Bank.
HUTCHISON, JAMES	30 Brisbane Street.
HUTCHISON, JOHN B.	27 Finnart Street.
HUTCHISON, JAMES H.	26 Newark Street.
INGLIS, Mrs. R.	44 Eldon Street.
JAMES, WILLIAM	13 South Street.
JOHNSTON, JAMES	Shipbank, Lyle Street.
KERR, CHAS. F.	Rosemount, Bentinck Street.
KINCAID, JOHN G.	Westhorpe, Newark Street.
KING, JOHN U. C.	37A Union Street.
KIRKWOOD, WILLIAM H.	62 Forsyth Street.
LAIRD, JAMES	35 Newton Street.
LANG, JOHN	Station Hotel, Kilmacolm.
LAURENSEN, C. D.	Commercial Bank.
LAURIE, WILLIAM,	15 Robertson Street.
LEITCH, ARTHUR O.	9 Ardgowan Square.
LEITCH, JOHN	15 Ardgowan Square.
LOCHHEAD, ROBERT	63 Union Street.
LOVE, JAMES A.	60 Eldon Street.
LOW, THOMAS	41 Brisbane Street.
LOW, WILLIAM D.	41 Brisbane Street.
LYLE, J. L.	109 Finnart Street.
LYON, JAMES	Sugar Exchange.
MACARA, GRIERSON	37 Finnart Street.
M'ARTHUR, HUGH G.	43 Brisbane Street.
MACAULAY, Rev. J. J., B.A.	34 Margaret Street.
M'AUSLAN, D.	62 Campbell Street.
M'CLURE, WILLIAM, M.A.	24 Margaret Street.
M'CLURE, Mrs. WILLIAM,	24 Margaret Street.
MACCUTCHEON, H.	Town Clerk's Office.
MACDOUGALL, DUGALD	3 Newark Street.
MACDOUGALL, G. R.	22 Fox Street.
MACDONALD, GEORGE	101 Finnart Street.

MACFARLAN, Miss ELLA . . .	75 Union Street.
MACFARLAN, ROBERT, C.A. . .	72 Forsyth Street.
M'GREGOR, CHARLES . . .	48 Brisbane Street.
M'GUGAN, D. . . . .	6 Hope Street.
MACKINTOSH, HUGH . . .	National Bank.
MACINTOSH, NEIL . . .	39 Ardgowan Street.
MACKAY, EDWARD, M.B., C.M.	10 Ardgowan Square.
M'KELLAR, P. . . . .	45 Finnart Street.
M'KINNON, JOHN . . .	2 Lyle Street.
M'KIRDY, ROBERT . . .	78 Union Street.
M'LEAN, HUGH . . . . .	35 Margaret Street.
M'LEAN, Miss . . . . .	27 Mearns Street.
MACLEAN, ALEX. S. . . .	33 Bank Street.
MACLEAN, JOHN . . . .	63 Forsyth Street.
MACLEAN, JAMES A. . . .	3 Octavia Terrace.
MACLEOD, ANGUS . . . .	2 Wellington Street.
MACMILLAN, DAVID . . .	14 Kelly Street.
M'NEIL, JAMES . . . . .	9 Bentinck Street.
MACONIE, PETER . . . .	40 Mearns Street.
MACPHERSON, DAVID S., C.A.,	65 Finnart Street.
MACPHERSON, ROBERT, C.A.	67 Finnart Street.
M'QUISTAN, R. M. . . . .	40 Campbell Street.
MASSICKS, WILLIAM . . .	67 Rue-end Street.
MATHIESON, LINDSAY . . .	23 Brisbane Street.
MELROSE, ALEX. . . . .	Lily Bank, Port-Glasgow.
MENZIES, ALEX. . . . .	21 Brisbane Street.
MENZIES, Miss . . . . .	18 Kelly Street.
MEYER, VICTOR C. . . . .	56 Finnart Street.
MILLAR, J. . . . .	17 Kelly Street.
MILLAR, WILLIAM . . . .	9 Octavia Terrace.
MILLER, NEIL K. . . . .	2 Fox Street.
MILLER, THOMAS, Jun. . .	2 Fox Street.
MITCHELL, M. . . . .	31 Robertson Street.
MITCHELL, WALTER . . .	4 Hope Street.
MORIES, A. S. . . . .	157 Eldon Street.
MORRISON, D. A. . . . .	Lyle Road.
MUIR, JAMES D. . . . .	23 Union Street.
MUIR, Miss . . . . .	36 Margaret Street.
MULLENS, A. J. . . . .	37 Robertson Street.

MUMME, CARL . . . .	30 Newark Street.
MURRAY, JAMES . . . .	Norwood, Port-Glasgow.
MURRAY, GEORGE . . . .	Redholm, Port-Glasgow.
MURRAY, GEORGE . . . .	2 Argyle Street.
NEIL, J. . . . .	5 Shaw Place.
NEILL, GEO. D. . . . .	39 Newark Street.
NEILL, JOHN, M.A. . . . .	1 Bedford Street.
NEILL, J. D. . . . .	55 Esplanade.
NEILL, WALTER GRIEVE . . . .	1 Bedford Street.
NEILSON, MATTHEW . . . .	16 Forsyth Street.
NEISH, Sheriff . . . .	5 Newark Street.
NICOL, D., . . . .	52 Union Street.
NICOL, DUNCAN . . . .	2 Octavia Terrace.
NICOL, GAVIN . . . .	25 Brisbane Street.
NICOLL, JAMES . . . .	32 Margaret Street.
NICOLL, WILLIAM . . . .	29 Finnart Street.
ORR, RYRIE, M.A. . . . .	35 Esplanade.
ORR, DANIEL . . . . .	41 Dempster Street.
PATERSON, MRS. . . . .	20 Eldon Street.
PATERSON, DANIEL . . . .	33 Finnart Street.
PATERSON, DAVID . . . .	4 Bedford Street.
PATERSON, JAMES . . . .	33 Finnart Street.
PATERSON, JAMES, F S.A.A. . . .	58 Campbell Street.
PATTERSON, T.L., F.I.C., F.C.S., .	59 Finnart Street.
PATON, J. FRASER . . . .	1 Rosneath Street.
PATON, Miss . . . . .	1 Rosneath Street.
PATRICK, JOHN B. . . . .	36 Campbell Street
PAUL, W. B. . . . .	53 Newton Street.
PRENTICE, A. R. . . . .	28 Newark Street.
PRENTICE, J. G. . . . .	54 Esplanade.
PRENTICE, THOMAS . . . .	45 Ardgowan Street (W.)
RAMSAY, ALEX. . . . .	15 South Street.
RANKIN, JOHN F. . . . .	21 Octavia Terrace.
RANKIN, MATTHEW . . . .	21 Octavia Terrace.
RICHARDSON, ROBERT . . . .	27 Finnart Street.
ROBERTSON, F. W. D. . . .	38 Finnart Street.
ROBERTSON, JAMES A. . . .	65 Forsyth Street.
RODGER, JOHN . . . . .	42 Forsyth Street.
RORISON, THOMAS D. . . .	24 Roxburgh Street.

ROSS, HEW RAMSAY . . .	48 Brisbane Street.
ROSS, HUGH M. . . .	63 Esplanade.
ROUGVIE, JAMES . . .	21 Forsyth Street.
ROWAN, GEORGE . . .	41 Ardgowan Street.
ROWAN, R. HOUSTON, C.A. . .	50 Eldon Street.
ROWLEY, THOMAS . . .	Eldon Place.
RUSSELL, JOSEPH . . .	The Knowe.
SCOBIE, LAWRENCE . . .	53 Brisbane Street.
SCOTT, JOSEPH D. . . .	63 Finnart Street.
SCOTT, R. L. . . .	Silwood, 33 Margaret Street.
SCOTT, WALTER D., . . .	Feorline, Broomberry Drive, Gourrock.
SERVICE, WILLIAM . . .	56 Regent Street.
SHARP, ROBERT . . .	Octavia Street, Port-Glasgow.
SHARP, WILLIAM . . .	13 Caddlehill Terrace.
SHAW-STEWART, Lady ALICE . .	Ardgowan, Inverkip.
SHAW-STEWART, Sir M. HUGH, Bart.	Ardgowan, Inverkip.
SHEARER, ALEX. . . .	2 Glen Street.
SHEARER, ARCHIBALD, . . .	93 Eldon Street.
SHEARER, JAMES . . .	Benview, Gourrock.
SINCLAIR, THOMAS ORD, C.A. . .	Finnart Road.
SLATER, JAMES, B.A., F.E.I.S. .	Hunter Villa, Gourrock.
SMITH, Mrs. . . .	65 Union Street.
STEEL, JAMES S. . . .	23A Forsyth Street.
STEWART, A. . . .	18 Robertson Street.
STEWART, JAMES K. . . .	58 Esplanade.
STEWART, J. . . .	18 Murdieston Street.
STEWART, THOMAS O. . . .	45 Union Street.
STOBBIE, PETER . . .	12 South Street.
SWAN, R. . . .	1 Johnstone Street.
TAITT, R. G. . . .	28 Ardgowan Street.
TANNOCK, QUINTIN, Jr. . . .	8 Brisbane Street.
TAYLOR, J. G. . . .	33 Esplanade.
TAYLOR, W. B. . . .	Greenock Academy.
THOM, W. A. . . .	20 Ardgowan Street.
THOMSON, THOMAS . . .	69 Newton Street.
THORBURN, JAS. G. . . .	4 Newark Street.
THORNE, ROBERT . . .	36 Newark Street.
TIERNEY, EDWARD J. . . .	75 Brisbane Street.
TOPPING, W. A. . . .	35 Robertson Street.

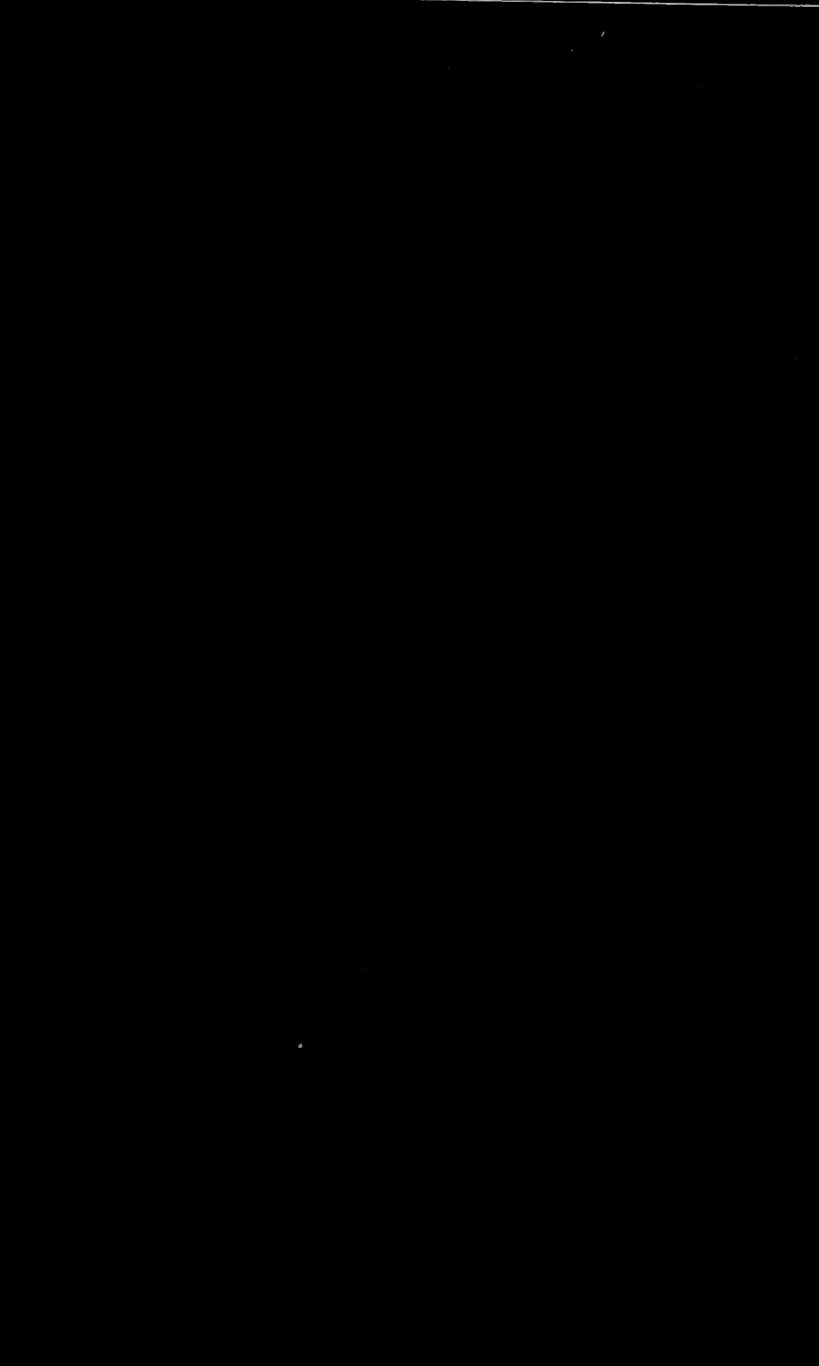
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TURNBULL, JOHN R.,	60 Campbell Street.
TURNBULL, ALEXR. J., C.E.	60 Campbell Street.
TURNER, MRS.	9 Fox Street.
WALKER, HUGH W.	Bellevue, Johnstone Street.
WALKER, JOHN	59 Newton Street.
WARDLE, JAMES	2 Esplanade.
WATSON, W. S.	58 Brisbane Street.
WEIR, JOHN	64 Kelly Street.
WILLIAMSON, ALEXANDER	67 Esplanade.
WILSON, Mrs. JAMES	Thornhill, 37 Ardgowan Street.
WINGATE, JOHN S.	72 Eldon Street.
WOODBURN, Miss	18 Bentinck Street.
WREDE, FRED LEAR	27 Bentinck Street.
YOUNGER, ROBERT L.	22 Fox Street.











Forty-Ninth

ANNUAL REPORT

OF THE

Greenock

Philosophical Society.

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SESSION 1909-1910.

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GREENOCK :  
"TELEGRAPH" PRINTING WORKS, SUGARHOUSE LANE,  
1910.



# Greenock Philosophical Society.

## OFFICE-BEARERS FOR SESSION 1910-1911.

President—JOHN NEILL, M.A.

Vice-Presidents — { ALEXANDER S. MORIES.  
SHERIFF NEISH.

Treasurer—WILLIAM ADAMSON, 22 Margaret Street.

Secretary—W. D. BOYD, 2 Church Place.

### Committee of Management.

PRESIDENT.

VICE-PRESIDENTS.

TREASURER.

SECRETARY.

WILLIAM AULD.

J. FRASER PATON.

THOMAS MILLER, Jun.

JAMES A. ROBERTSON.

Dr. EDWARD MACKAY.

Rev. J. J. MACAULAY, B.A.

R. L. SCOTT.

T. O. SINCLAIR.

R. L. YOUNGER.

ALEX. BATHGATE.

J. D. BROWN.

JAMES A. LOVE.

JOHN MACLEAN.

ALEX. NORWELL, B.Sc.

\*THOMAS THOMSON.

\*GEORGE DUNLOP, B.L.

\*R. A. CLAPPERTON-STEWART

\*R. D. CARMICHAEL.

\*ALEXANDER SHEARER.

\*DAVID BAIRD, M.A.

*\* Representatives in Museum Committee.*

### Committee of Museum and Hall.

*(Elected by Philosophical Society.)*

THOMAS THOMSON, *Treasurer.*

GEORGE DUNLOP, B.L., *Secretary.*

R. A. CLAPPERTON-STEWART.

R. D. CARMICHAEL.

ALEXANDER SHEARER, *Chairman.*

DAVID BAIRD, M.A.

*(Elected by Proprietors of Library.)*

Rev. J. J. MACAULAY.

WILLIAM WATT.

A. R. PRENTICE.

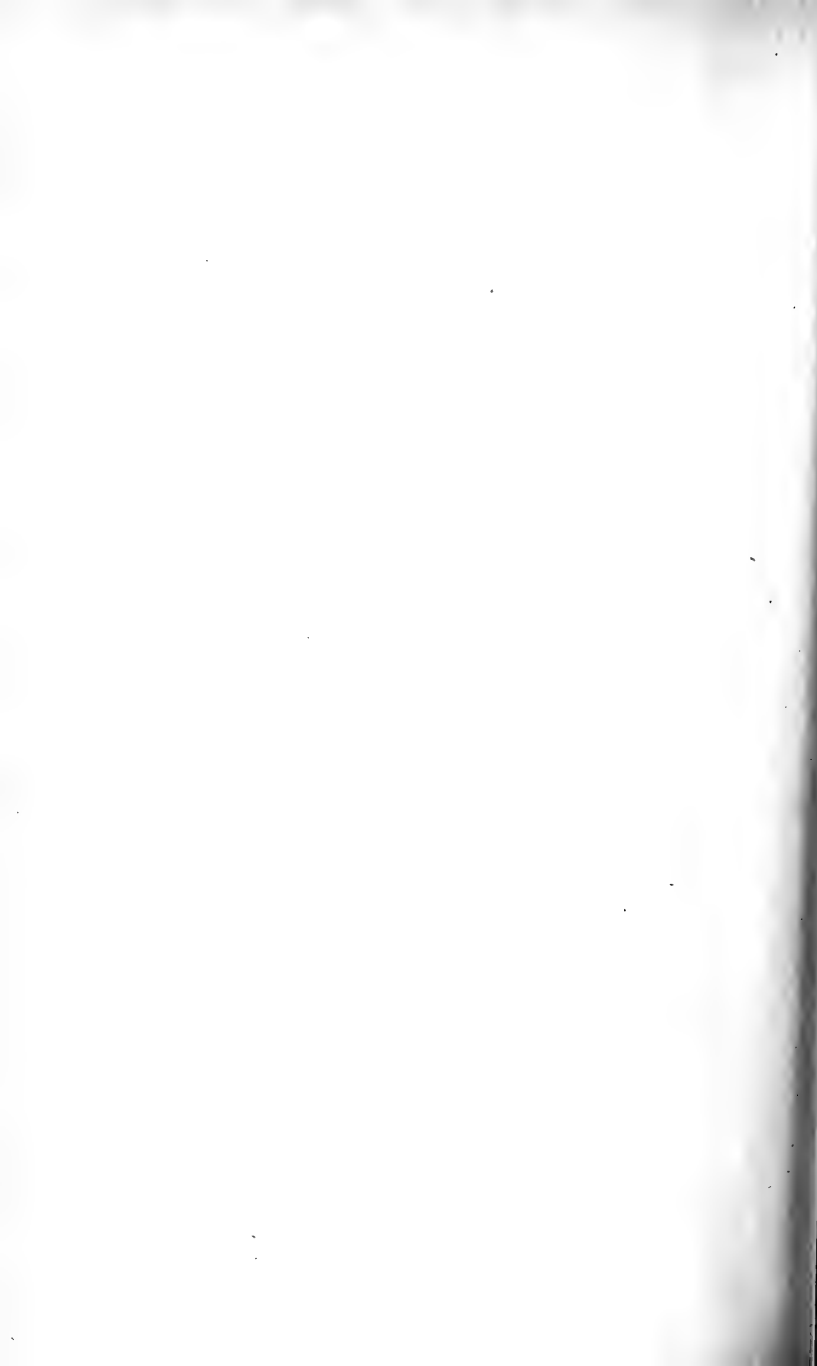
ALF M'KILLOP.

Rev. J. P. STRUTHERS.

A. K. MACDONALD.

*Curator of Museum—CHARLES BRUNTON.*

*Assistant Curator of Museum—A. MILLIGAN.*





# FORTY-NINTH ANNUAL REPORT.

SESSION 1909-1910.

*Read and approved at the Annual Meeting of the Society, held in the Lecture Hall of the McLean Museum, on Friday, 4th March, 1910—Mr. V. C. Meyer, Vice-President, in the Chair.*

## Statement of Accounts.

### INCOME.

Balance from previous Session, . . . . .	£156	17	8
Tickets Sold—286 Members', at 10/6, . . . . .	£150	3	0
„ 293 Ladies' and Youths', at 3/6, . . . . .	51	5	6
	£201	8	6
Bank Interest on Deposit Receipts, . . . . .	3	11	11
		205	0 5
		£361	18 1

### EXPENDITURE.

Fees to Lecturers, . . . . .	£109	10	6
Expenses in connection with Lectures, . . . . .	11	8	3
Museum Committee—Lighting and Heating Hall, . . . . .	10	0	0
Printing, Advertising, and Stationery, . . . . .	25	13	6
Collector's and Hallkeeper's Allowances and Outlays, . . . . .	10	12	6
Secretary's and Treasurer's Outlays, . . . . .	3	4	6
	£170	9	3
Balance on Deposit Receipt with National Bank, . . . . .	191	8	10
	£361	18	1

## SCIENCE LECTURE FUND.

Balance at close of previous year, . . . . .	£35	5	4
Add Interest for Year, . . . . .	1	1	1
	£36	6	5

WM. ADAMSON, *Hon. Treasurer.*

GREENOCK, 2nd March, 1910.—Examined, certified correct. Deposit Receipt and Provident Bank Book exhibited.

R. L. YOUNGER, }  
THOS. MILLER, JR., } *Auditors.*

## Statement of Proceedings.

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The Committee have pleasure in submitting the Forty-Ninth Annual Report of the Society. The number of Ordinary Members is 286, and the number of tickets issued for Ladies and Youths amounts to 293, an increase of 16 and 7 respectively over the preceding year, and the largest number ever issued in the history of the Society. The weekly meetings were all well attended, and the general interest taken in the Lectures testifies to their popularity and their need in the social life of the town. The Programme, as originally arranged, has this Session been carried out without alteration. The thanks of the Society are due to Dr. Robert Caird for the Watt Anniversary Lecture and to Sheriff Kennedy for his Lecture on "Plato as a Legislator." Dr. Caird's Lecture will be printed and issued in due course as one of the papers of the Society.

The thanks of the Committee are again due to the Committee of the Museum for further improvements in connection with the Hall, especially in regard to the lighting, tending to increase the comfort of the audiences and adding to the convenience of the Lecturers. Details of these, and of changes still to be carried through, will be found in the Report of the Museum Committee, which will be circulated with this Report.

The Syllabus was as follows :—

<sup>1909.</sup>  
Oct. 29—" *Italian Art, from the 13th to 16th Century.*" With Lantern Illustrations. By Rev. JOHN D. SINCLAIR, B.D., Cluny.

Nov. 5—" *The Spider as an Engineer.*" With Lantern Illustrations. By FRED W. SAXBY.

" 12—DRAMATIC RECITAL. By Miss ELLEN BOWICK.

" 19—" *Parliament from the Press Gallery.*" By SPENCER LEIGH HUGHES ("Sub Rosa" of the *Morning Leader*.)

- Nov. 26—"Dr. Johnson, his Friends, his Homes, and his Haunts." With Lantern Illustrations. By Rev. F. W. MACDONALD.
- Dec. 3—"Behind Birdland's Veil." With Lantern and Kinematograph Illustrations. By OLIVER G. PIKE, F.Z.S., F.R.P.S.
- " 10—"The People of the Desert." With Lantern Illustrations. By EDGAR BELLINGHAM.
- " 17—"Aerial Navigation—Past, Present, and Future." Illustrated by Experiments and Lantern Slides. By Dr. H. S. HELE-SHAW, F.R.S.
- " 27—BUSINESS MEETING. Annual Report by Museum Committee and Election of Representatives.
1910.  
Jan. 14—WATT ANNIVERSARY LECTURE. "*James Watt's Contribution to the Advancement of Engineering.*" By ROBERT CAIRD, LL.D., F.R.S.E.
- " 21—"The Love of Scotland." By Rev. A. BOYD SCOTT, B.D., Lansdowne Church, Glasgow.
- " 28—"Sicily and the Ruins of Messina." With Lantern Illustrations. By WHITWORTH WALLIS, F.S.A.
- Feb. 4—"The Songs we Love." With Musical Illustrations. By Mr. and Mrs. CHARLES SAUNDERS.
- " 11—"Plato as a Legislator." By NEIL J. KENNEDY, K.C., LL.D., Sheriff of Renfrew and Bute.
- " 18—"Woman: Her History and Destiny." By Dr. C. W. SALEEBY, F.R.S.E.
- " 25—"Ferns." With Lantern Illustrations. By FREDERICK O. BOWER, D.Sc., F.R.S., Professor of Botany in the University of Glasgow.
- Mar. 4—ANNUAL MEETING OF THE SOCIETY.

The Society will in October next enter upon its Fiftieth Session, and the Committee have already had under consideration the advisability of celebrating the occasion in an adequate manner. It will fall to the new Committee to discuss the matter further and take the practical steps necessary for carrying through the arrangements.

At a Meeting of the Society held on the 27th December, 1909,

Messrs. Alexander Shearer and David Baird were elected as the Society's representatives on the Museum Committee.

The Office-bearers who retire at this time are :— Rev. Charles Allan, President ; Mr. V. C. Meyer, Vice President ; Mr. W. D. Boyd, Secretary ; and Messrs. James Crawford, James Craig, Laurence Scobie, W. F. Henderson, and Dr. W. A. Brown, Ordinary Members of Committee. There is also another vacancy to be filled on the Committee for two years caused by the election of Mr. Baird to be a representative on the Museum Committee.

## McLean Museum and Lecture Hall.

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### ANNUAL REPORT BY COMMITTEE OF MANAGEMENT.

*Read and adopted at Joint Meeting of Proprietors of the Greenock Library  
and Philosophical Society held on 27th December, 1909.*

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The Committee of Management of the McLean Museum and Lecture Hall have pleasure in submitting the Thirty-second Annual Report on the Museum, which is as follows :—

The Representatives to the Committee elected at last Annual Meeting by the Library Proprietors were Mr. Alfred M'Killop and Mr. A. R. Prentice, and by the Philosophical Society, Mr. R. D. Carmichael and Mr. Robert A. Clapperton-Stewart. At the Annual Meeting of the Committee held on 4th January Mr William Watt was elected Chairman, the appointment falling to be made from the Representatives of the Library.

As usual a list of the additions made to the collections during the year will be found in the Curator's Report, and while the number is not quite so large as in some former years, still many objects of interest have been placed in the Museum. The Committee desire to express their thanks for all contributions, either by gift or on loan, and while the space at their disposal is becoming somewhat limited they are always glad to receive specimens or objects of interest to be placed among the collections. A new case or stand has been erected in the centre of the main Hall on which are exhibited on the one side a number of examples of the art work of old Japan, presented to the Museum by Mr. George R. MacDougall (as mentioned in a previous Report), and on the other side the Geological Maps for reference in connection with the collection prepared by Mr. W. J. C. Laurie, referred to in last year's Report.

A large number of books and publications have been added to the Museum Library, among them being the usual volumes received from the Egypt Exploration Fund. Special attention may be called to the purchase of three volumes of the Report of the Scientific Results of the Voyage of the Scotia during the years 1902-4, under the leadership of Dr William S. Bruce, F.R.S.E.

The Committee are much indebted to Mr. George R. Macdougall, New York, for some interesting additions, among them being a letter written by James Watt on 14th March, 1780.

The loan collection from the Victoria and Albert Museum South Kensington, has again been renewed, and four interesting cases containing examples of Wood-carving, Persian Pottery and Tiles, Chinese Porcelain, and Electrotypes of English Maces have been received on loan. The loan collection of oil paintings has also been replaced as detailed in the Curator's Report.

It gives the Committee great pleasure to report that they have just received a communication from Mr Robert Little, R.W.S., son of the late Mr Robert Little, Shipowner, offering to present to the Museum as an addition to the Art collection of his native town one of his pictures entitled "Haymaking in England," which recently received the "Mention Honourable" at the Paris Salon. The Committee greatly appreciate the action of Mr Little, and desire to record their thanks to him for his generous gift.

The improvement in the lighting of the Lecture Hall, referred to in last Report, has now been satisfactorily carried out—the old Nernst Lamps, which were practically worn out, having been replaced by the more modern type of Osram Lamp, with suitable fittings. The wiring has also been renewed, and a special switch has been fitted by which the lights in the Hall can be turned instantaneously off or on, which will be of great benefit in connection with Lantern and Experimental Lectures.

Some time ago the South Kensington Authorities made enquiry regarding the provision in the Museum for dealing with an outbreak of fire, and they have suggested that fire hydrants should be provided, one on the main floor and one for the gallery. As the Committee realised the necessity for taking every possible precaution in such a

matter, they felt bound to adopt this suggestion, and consulted Firemaster Taylor as to what he would recommend. After careful consideration it has been decided to have three hydrants fitted in the building—one in the main Hall of the Museum, one at the entrance to the Lecture Hall, and one at the entrance to the Gallery—the work to be carried out under supervision of the Firemaster. These with the existing hand extinguishers should make the risk from fire very slight.

The exit to Watt Street is now used regularly by many who attend the Philosophical Society's Lectures. An incandescent gas lamp has been fitted in the porch in place of the oil lamp, and the Committee are considering the matter of having safety slip bolts fitted to the outside door.

Another matter to which the Committee directed their attention, and which they have under consideration, is the heating of the building. Complaints are sometimes heard of draughts in the Lecture Hall, and during the cold weather great difficulty is experienced in getting up sufficient heat in the Museum. The Committee have had the heating apparatus examined and reported on by a leading firm of Heating and Ventilating Engineers, and they have before them a Report on the subject, which contains several suggestions for improving the present method of heating and ventilating. The matter will, no doubt, be taken up by the Committee during the ensuing year.

An Abstract of the Treasurer's Accounts, which have been audited by Messrs Nicoll & Carmichael, is appended, and it will be seen that the expenditure has exceeded the revenue by £32 18s 1d. As, however, the Grant from the M'Lean Trustees for the second half of the year, which has just been received, is included in the account, there is a balance at the credit of the Committee of £133 6s 2d.

The Members of Committee who retire by rotation at this time are—Mr. Malcolm M'C. Brown and Mr. A. J. Black from the Library representatives, and Mr. John Lang and Mr. Alexander Shearer from the Philosophical Society's representatives. These are all eligible for re-election.

## McLEAN MUSEUM.

## ABSTRACT OF ACCOUNTS,

*For Year ending 22nd December, 1909.*

## REVENUE.

Grant from McLean Trustees, . . . . .	£320 0 0
Rent of Hall, . . . . .	88 18 6
Interest, . . . . .	1 1 0
Sundries, . . . . .	0 4 8

£410 4 2

## EXPENDITURE.

Salaries and Wages, . . . . .	£181 0 0
Cleaning, . . . . .	11 0 0
Furniture and Fittings, . . . . .	37 3 7
Repairs and Improvements, . . . . .	46 14 3
Insurance and Feu-duty, . . . . .	32 6 5
Specimens, Books, and Pictures for Museum, . . . . .	13 9 0
Legal Expenses (Parliamentary Agents <i>re</i> Corporation Bill), . . . . .	25 13 9
Taxes and Assessments, . . . . .	34 18 2
Coal, Gas, and Electricity, . . . . .	29 6 5
Sundries, . . . . .	31 10 8
	<hr/>
	443 2 3

Leaving a Debit Balance of . . . . .	32 18 1
Credit Balance from last year, . . . . .	166 4 3

Net Balance at *Credit* of Committee, . . . . . £133 6 2

Union Bank—Current Account, . . . . .	£23 6 2
Do. Deposit Receipt, . . . . .	110 0 0
	<hr/>
	£133 6 2

THOMAS THOMSON, *Hon. Treas.*

*Note.*—The above balance of £133 6s 2d is after crediting the sum of £170 being Grant received from McLean Trustees on date of closing the Books.—T. T.

GREENOCK, 22nd December, 1909.—Audited and found correct. The Deposit Receipt has been exhibited, and is in order.

(Signed) NICOLL & CARMICHAEL, *Auditors.*



## LIST OF MEMBERS FOR 1909-1910.

### 1.—Honorary Members.

(With Year of Election.)

Sir ARCHD. GEIKIE, LL.D., F.R.S.,	1863
CHAS. GREVILLE WILLIAMS, F.R.S.,	1863
Sir ANDREW NOBLE, Bart., F.R.S.,	1892
F. P. PURVIS, WH. SC.,	1902
GEORGE R. MACDOUGALL,	1910

### II.—Ordinary Members.

ADAM, JOHN	29a Finnart Street.
ADAM, Miss	7 Madeira Street.
ADAM, WILLIAM	12 Newark Street.
ADAMSON, WILLIAM	Rockhill, 22 Margaret Street.
AGNEW, JAMES	1 Newark Street.
ALLAN, ALEXANDER, C.A.	39 Margaret Street.
ALLAN, Rev. C., M.A.	93 Newton Street.
ALLAN, JOHN	48 Brougham Street.
ALLAN, WILLIAM, M.D.	33 Union Street.
ANDERSON, J. WALLACE	97 Brisbane Street.
ARCHIBALD, THOMAS P.	37 Fox Street.
ARMSTRONG, Rev. R. D.	37 Newton Street.
AULD, WILLIAM	79 Newton Street.
BAIRD, DAVID, M.A.	Hunter Villa, Gourrock.
BALLMENT, Miss	Eldon Place.
BARR, WILLIAM	47 Finnart Street.
BATHGATE, ALEXANDER	85 South Street.
BENNETT, J. W.	64 Esplanade.
BENNETT, JOHN D.	58 Eldon Street.
BIGGART, C. M.,	39 Brisbane Street.
BLACK, A. J.	16 Ardgowan Square.
BLACK, Miss F. E.	11 Kelly Street.

BLACKWOOD, M. CRAIG . . . .	Craigiehaugh, Port-Glasgow.
BOYD, DAVID . . . .	54 South Street.
BOYD, Miss SARAH G. . . .	39 Union Street.
BOYD, W. D. . . . .	87 South Street.
BRADLEY, GEORGE . . . .	49 Newark Street.
BROWN, J. D. . . . .	61 Finnart Street.
BROWN, P. . . . .	42 Margaret Street.
BROWN, W. A. . . . .	67 Eldon Street.
BROWN, W. A., B.Sc., M.B., CH.B.	54 Brisbane Street.
BUCHANAN, HENRY . . . .	43 Finnart Street.
BUCHANAN, H., Jun. . . .	43 Finnart Street.
CAIRD, COLIN S. . . . .	13 Newark Street.
CAIRD, PATRICK T. . . . .	Belleaire, 15 Newark Street.
CAIRD, ROBERT, LL.D., F.R.S.E.	56 Esplanade.
CAMERON, JOHN . . . .	Finnart House.
CAMPBELL, JAMES . . . .	35 Brisbane Street.
CAMPBELL, JOHN H. . . .	Arnisdale, Gourrock.
CAMPBELL, Rev. J. . . . .	Glenburn, 6 Newark Street.
CARMICHAEL, ANDREW . . .	44 Ardgowan Street (W.).
CARMICHAEL, ANDREW . . .	41 Union Street.
CARMICHAEL, DUNCAN . . .	50 Brisbane Street.
CARMICHAEL, J. D. M. . . .	93 Finnart Street.
CARMICHAEL, R. D. . . . .	93 Finnart Street.
CARMICHAEL, THOMAS . . .	44 Ardgowan Street (W.)
CARMICHAEL, WM. H. . . .	76 Finnart Street.
CHALMERS, JAMES . . . .	5 Finnart Road.
CLAPPERTON-STEWART, R. A., C.A.	61 Union Street.
CLARK, W. B. . . . .	11 Fox Street.
CLERK, DUNCAN . . . .	25 Octavia Terrace.
CLINK, Mrs. C. W. . . . .	17 Fox Street.
COLQUHOUN, DUNCAN . . .	42 Brisbane Street.
COOK, ARCHIBALD . . . .	71 Newton Street.
COOK, WILLIAM, B.A., F.E.I.S.	71 Newton Street.
COOK, WM. S., B.Sc., M.B., C.M.	2 Ardgowan Square.
COOPER, Mrs. . . . .	17 Ardgowan Square.
CORRY, Miss . . . . .	Beltrees, 56 Union Street.
CRAIG, JAMES . . . . .	Lloyds' Office, Cross-shore Street.
CRAIG, J. D., M.A. . . . .	Greenock Academy.
CRAWFORD, ANDREW . . . .	32 Ardgowan Street.

CRAWFORD, JAMES . . .	76 Forsyth Street.
CRAWFORD, J. W. . . .	41 Newark Street.
CRAWFORD, JOHN F. . . .	7 Campbell Street.
CRAWFORD, THOMAS . . .	61 Esplanade.
CUNNINGHAM, T. A. . . .	87 Brisbane Street.
CUTHBERT, GILBERT . . .	29 Brisbane Street.
DENNISTON, J. S. . . .	19 Patrick Street.
DICKSON, W. A. . . .	National Bank.
DONALD, JAMES . . . .	24 Forsyth Street.
DOWNIE, ANDREW . . . .	41 Fox Street.
DRUMMOND, JOHN, Jr. . . .	60 South Street.
DRUMMOND, NEIL . . . .	60 South Street.
DUFF, Miss . . . .	52 Eldon Street.
DUNCAN, JOHN . . . .	Ardenclutha, Port-Glasgow.
DUNLOP, GEORGE, . . . .	27 Ardgowan Street.
DUNLOP, GEORGE, B.L. . . .	95 Newton Street.
DUNLOP, MALCOM, M.A., LL.B. . .	95 Newton Street.
DUNLOP, JOHN . . . .	23 Union Street.
ERSKINE, D. M. . . .	22 Margaret Street.
FEATHERSTONE, C.R., B.A. . .	Greenock Academy.
FINLAY, A. CAMPBELL . . . .	62 Esplanade.
FINDLAY, JOHN . . . .	20 Union Street.
FISHER, Mrs, R. F. . . .	42 Newark Street.
FOSTER, CUTHBERT, Mus. Bac. . .	2 Margaret Street.
FORTEY, Miss ISABELLA C. . .	Beltrees, 56 Union Street.
FRAME, JAMES . . . .	32 Esplanade.
FULLARTON, G. A. . . .	Ross Bank, Port-Glasgow.
FULLARTON, HUGH . . . .	103 Finnart Street.
GALLOWAY, J. W. . . .	17 Ardgowan Square.
GLEN, JAMES . . . .	19 Octavia Terrace.
GOW, L. N., M.A., B.Sc. . . .	15 Newton Street.
GRAHAM, W. G. H. . . .	3 Finnart Street.
GRAY, ROBERT . . . .	23 Finnart Street.
GRIEVE, W. R. . . .	65 Union Street.
GRIEVE, Mrs. J. . . .	95 Finnart Street.
GUTHRIE, W. G. . . .	28 Brisbane Street.
HAMILTON, ROBERT, F.S.I. . . .	27 Union Street.
HAMILTON, R., M.A., . . . .	16 South Street.
HAMILTON, Miss . . . .	28 Eldon Street.

HENDERSON, Mrs.	. . .	13 Kelly Street.
HENDERSON, Mrs.	. . .	18 Finnart Street.
HENDERSON, W. F.	. . .	57 Forsyth Street.
HENDRY, J.	. . .	9 Robertson Street.
HENRY, Miss	. . .	61A Finnart Street.
HERON, Miss	. . .	5 Caddlehill Street.
HERON, WILLIAM	. . .	61A Finnart Street.
HILL, ROBERT	. . .	75 Union Street.
HOUSTON, ANDREW	. . .	17 Forsyth Street.
HOUSTON, R. C.	. . .	40 Newark Street.
HUNTER, A. J.	. . .	45 Brougham Street.
HUNTER, J. P.	. . .	Union Bank.
HUTCHESON, J.	. . .	61 Newton Street.
HUTCHISON, JAMES	. . .	30 Brisbane Street.
HUTCHISON, JOHN B.	. . .	65 Eldon Street.
HUTCHISON, JAMES H.	. . .	26 Newark Street.
INGLIS, Mrs. R.	. . .	44 Eldon Street.
JAMES, WILLIAM	. . .	13 South Street.
JOHNSTON, JAMES	. . .	Shipbank, Lyle Street.
KENNEDY, H.	. . .	6 South Street.
KERR, CHAS. F.	. . .	34 Eldon Street.
KINCAID, JOHN G.	. . .	Westhorpe, Newark Street.
KING, JOHN U. C.	. . .	2 Fox Street.
KIRKWOOD, WILLIAM H.	. . .	62 Forsyth Street.
LAIRD, JAMES	. . .	60 Brisbane Street.
LANG, JOHN	. . .	Station Hotel, Kilmacolm.
LAURENSEN, C. D.	. . .	Commercial Bank.
LAURIE, WILLIAM	. . .	15 Robertson Street.
LAWSON, R.	. . .	33 Robertson Street.
LEITCH, ARTHUR O.	. . .	9 Ardgowan Square.
LEITCH, JOHN	. . .	15 Ardgowan Square.
LEITCH, W. O.	. . .	80 Finnart Street.
LOCHHEAD, ROBERT	. . .	63 Union Street.
LOVE, JAMES A.	. . .	60 Eldon Street.
LOW, THOMAS	. . .	St. Rule, Newton Street.
LOW, WILLIAM D.	. . .	St. Rule, Newton Street.
LYLE, J. L.	. . .	109 Finnart Street.
LYON, JAMES	. . .	Sugar Exchange.
MACARA, GRIERSON	. . .	37 Finnart Street.

M'ARTHUR, HUGH G.	43	Brisbane Street.
MACAULAY, Rev. J. J., B.A.	34	Margaret Street.
M'CLURE, WILLIAM, M.A.	24	Margaret Street.
MACCUTCHEON, H.		Town Clerk's Office.
MACDOUGALL, DUGALD	3	Newark Street.
MACDOUGALL, G. R.	22	Fox Street.
MACDONALD, GEORGE	101	Finnart Street.
MACFARLAN, Miss ELLA	75	Union Street.
MACFARLAN, ROBERT, C.A.	72	Forsyth Street.
M'GREGOR, CHARLES	48	Brisbane Street.
M'GUGAN, D.	6	Hope Street.
MACKINTOSH, HUGH		National Bank.
MACINTOSH, NEIL	39	Ardgowan Street.
MACKAY, EDWARD, M.B., C.M.	65	Brisbane Street.
M'KELLAR, P.	45	Finnart Street.
M'KINNON, JOHN	2	Lyle Street.
M'LEAN, HUGH	35	Margaret Street.
M'Lean, John, B.A.	40	Robertson Street.
MACLEAN, Miss	27	Mearns Street.
MACLEAN, ALEX. S.	33	Bank Street.
MACLEAN, JOHN	63	Forsyth Street.
MACLEAN, JAMES A.	3	Octavia Terrace.
MACLEOD, ANGUS	2	Wellington Street.
MACMILLAN, DAVID	4	Campbell Street.
M'NEIL, JAMES	9	Bentinck Street.
MACONIE, PETER	40	Mearns Street.
MACPHERSON, DAVID S., C.A.,	65	Finnart Street.
MACPHERSON, Mrs. D. S.	65	Finnart Street.
MACPHERSON, ROBERT, C.A.	67	Finnart Street.
M'QUISTAN, R. M.	40	Campbell Street.
MATHIESON, LINDSAY	23	Brisbane Street.
MELROSE, ALEX.		Lily Bank, Port-Glasgow.
MENZIES, ALEX.	21	Brisbane Street.
MENZIES, Miss	18	Kelly Street.
MEYER, VICTOR C.	56	Finnart Street.
MILLAR, J., M.A.	17	Kelly Street.
MILLAR, WILLIAM	9	Octavia Terrace.
MILLER, NEIL K.	2	Fox Street.
MILLER, JOHN, M.B., Ch.B.	35	Regent Street.

MILLER, THOMAS, Jun.	2 Fox Street.
MITCHELL, M.	31 Robertson Street.
MITCHELL, WALTER	35 Regent Street.
MORIES, A. S.	63 Finnart Street.
MORRISON, D. A.	61 Finnart Street.
MUIR, JAMES D.	23 Union Street.
MUIR, Miss	36 Margaret Street.
MULLENS, A. J.	6 Campbell Street.
MUMME, CARL	30 Newark Street.
MURCHIE, R.	42 Robertson Street.
MURRAY, JAMES	63 Union Street.
MURRAY, GEORGE	Redholm, Port-Glasgow.
MURRAY, GEORGE	2 Argyle Street.
MURRAY, Miss	20 Robertson Street.
NEIL, J.	5 Shaw Place.
NEILL, GEO. D.	39 Newark Street.
NEILL, JOHN, M.A.	1 Bedford Street.
NEILL, J. D.	55 Esplanade.
NEILL, WALTER GRIEVE	1 Bedford Street.
NEILSON, MATTHEW	16 Forsyth Street.
NEISH, Sheriff	5 Newark Street.
NICOL, D.,	52 Union Street.
NICOL, DUNCAN	2 Octavia Terrace.
NICOL, GAVIN	25 Brisbane Street.
NICOL, Mrs. JOHN S.	85 Brisbane Street.
NICOLL, JAMES	21 Patrick Street.
NICOLL, WILLIAM	29 Finnart Street.
NIVEN, A. F.	41 Brisbane Street.
NORWELL, A., B.Sc.	42 Brisbane Street.
ORR, RYRIE, M.A.	35 Esplanade.
ORR, DANIEL	41 Dempster Street.
PATERSON, Mrs.	20 Eldon Street.
PATERSON, DANIEL	87 Eldon Street.
PATERSON, DAVID	52 Eldon Street.
PATERSON, JAMES	33 Finnart Street.
PATERSON, JAMES, F.S.A.A.	58 Campbell Street.
PATTERSON, T.L., F.I.C., F.C.S.,	59 Finnart Street.
PATON, J. FRASER	1 Rosneath Street.
PATON, Miss	1 Rosneath Street.

PATRICK, JOHN B.	36 Campbell Street
PAUL, W. B.	53 Newton Street.
PHILP, JOHN	73 Forsyth Street.
PRENTICE, A. R.	28 Newark Street.
PRENTICE, J. G.	54 Esplanade.
RAMSAY, ALEX.	44A Brisbane Street.
RANKIN, JOHN F.	21 Octavia Terrace.
RANKIN, MATTHEW	21 Octavia Terrace.
RICHARDSON, ROBERT	27 Finnart Street.
ROBERTSON, JAMES A.	65 Forsyth Street.
RODGER, JOHN	42 Forsyth Street.
RORISON, THOMAS D.	24 Roxburgh Street.
ROSS, HEW RAMSAY	7 Ardgowan Square.
ROSS, HUGH M.	63 Esplanade.
ROUGVIE, JAMES	Sugar Exchange.
ROWAN, GEORGE	41 Ardgowan Street.
ROWAN, R. HOUSTON, C.A.	50 Eldon Street.
RUSSELL, JOSEPH	The Knowe.
SCOBIE, LAWRENCE	53 Brisbane Street.
SCOTT, JOSEPH D.	63 Finnart Street.
SCOTT, R. L.	Silwood, 33 Margaret Street.
SCOTT, WALTER D.,	Feorline, Broomberry Drive, Gourrock.
SERVICE, WILLIAM	56 Regent Street.
SHARP, ROBERT	Octavia Street, Port-Glasgow.
SHARP, WILLIAM, C.A.,	13 Caddlehill Street.
SHAW-STEWART, Lady ALICE	Ardgowan, Inverkip.
SHAW-STEWART, Sir M. HUGH, Bart.	Ardgowan, Inverkip.
SHEARER, ALEX.	2 Glen Street.
SHEARER, ARCHIBALD,	93 Eldon Street.
SHEARER, JAMES	Benview, Gourrock.
SHEVLIN, JAMES	153 Eldon Street.
SINCLAIR, THOMAS ORD, C.A.	Finnart Road.
SINCLAIR, N. W.	35 Brisbane Street.
SLATER, JAMES, B.A., F.E.I.S.	Hunter Villa, Gourrock.
SMITH, ANGUS	10 Ardgowan Street.
SMITH, Mrs.	65 Union Street.
STEEL, JAMES S.	23A Forsyth Street.
STEWART, A.	18 Robertson Street.
STEWART, JAMES K.	58 Esplanade.

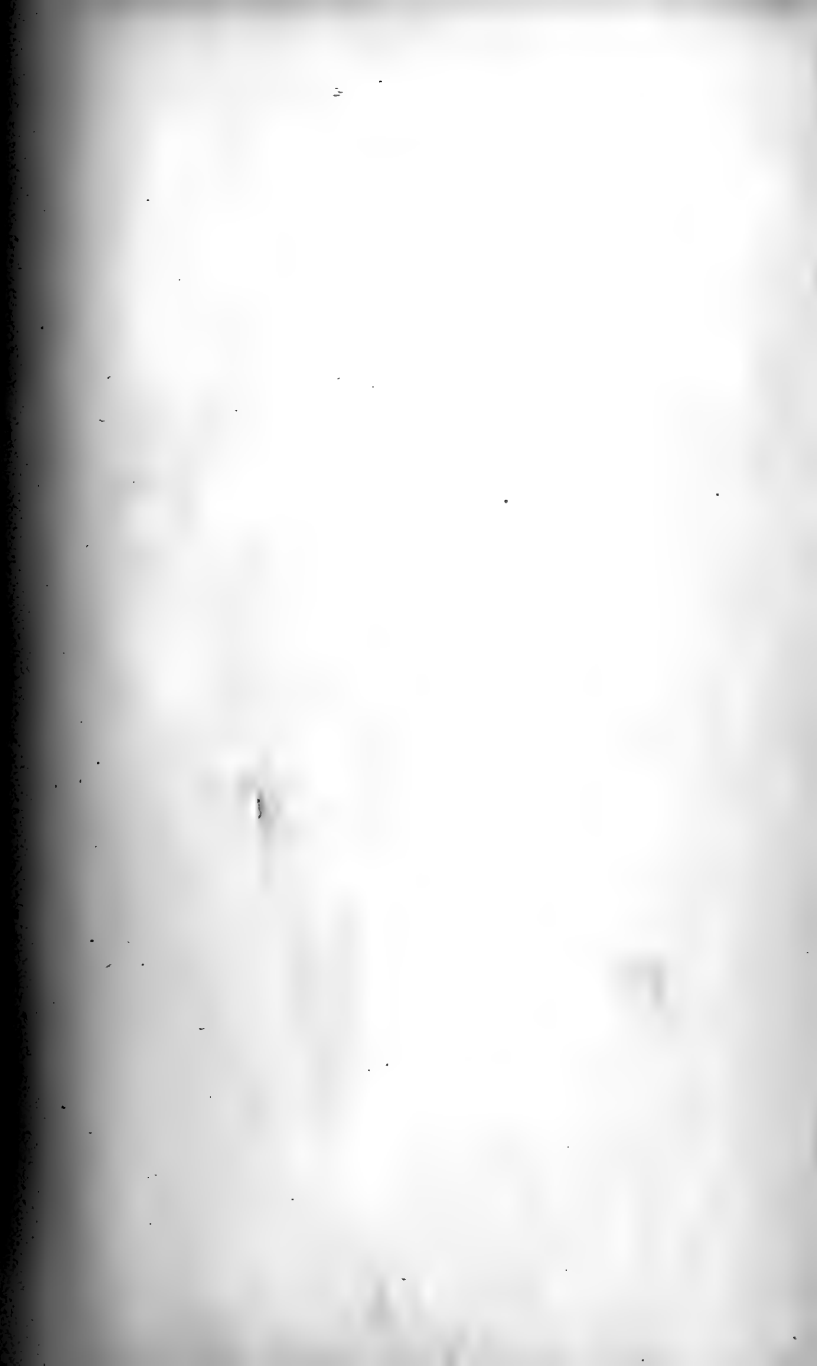
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STEWART, J.	18 Murdieston Street.
STEWART, THOMAS O.	13 Eldon Street.
SWAN, R.	1 Johnstone Street.
TAITT, R. G.	28 Ardgowan Street.
TANNOCK, QUINTIN, Jr.	8 Brisbane Street.
TAYLOR, J. D.	79 Finnart Street.
TAYLOR, J. G.	33 Esplanade.
TAYLOR, W. B., M.A.	Greenock Academy.
THOM, W. A.	20 Ardgowan Street.
THOMSON, THOMAS	69 Newton Street.
THORBURN, JAS. G.	4 Newark Street.
THORNE, ROBERT	36 Newark Street.
THORNE, A. H.	36 Newark Street.
TIERNEY, EDWARD J.	75 Brisbane Street.
TOPPIN, W. A.	35 Robertson Street.
TOUGH, J.	18 Bentinck Street.
TURNBULL, JOHN R.,	60 Campbell Street.
TURNER, Mrs.	9 Fox Street.
WALKER, HUGH W.	Bellevue, Johnstone Street.
WALKER, JOHN	59 Newton Street.
WARDLE, JAMES	2 Esplanade.
WATSON, W. S.	58 Brisbane Street.
WHITFIELD, W.	27 Regent Street.
WILLIAMSON, ALEXANDER	67 Esplanade.
WILSON, Mrs. JAMES	Thornhill, 37 Ardgowan Street.
WINGATE, JOHN S.	72 Eldon Street.
WOODBURN, Miss	18 Bentinck Street.
WREDE, FRED LEAR	27 Bentinck Street.
WRIGHT, Miss L.	65 Esplanade.
YOUNGER, ROBERT L.	22 Fox Street.



















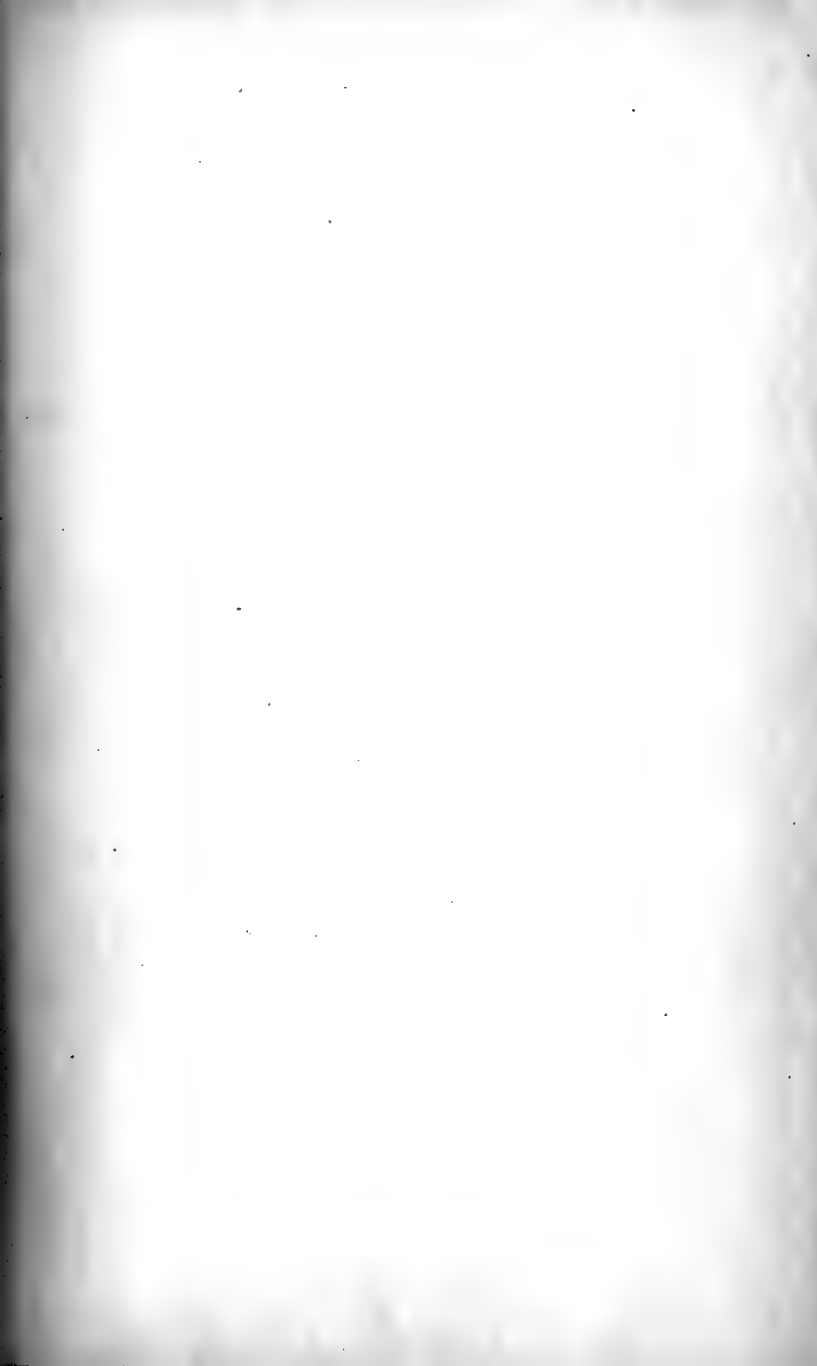


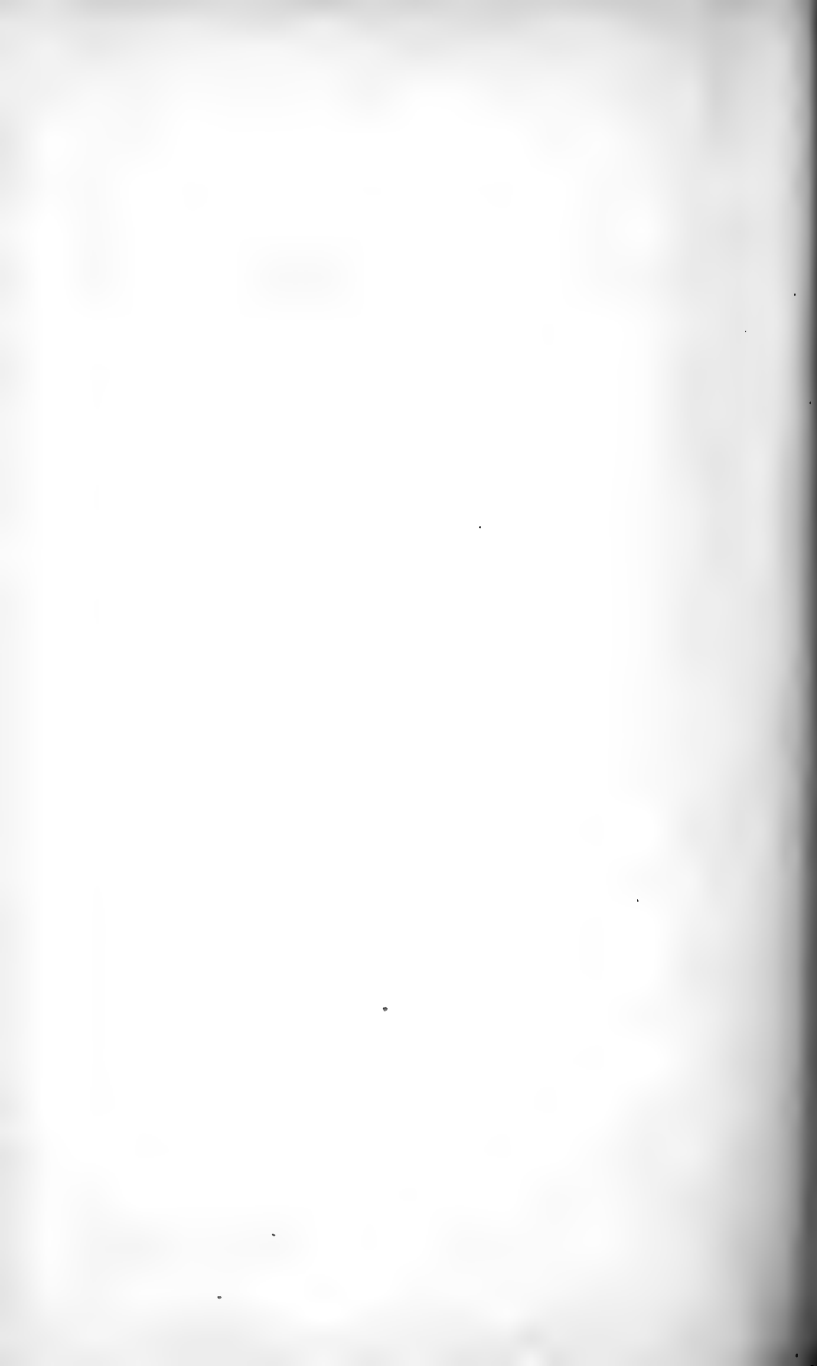




















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